

# INDEX

- ABBE (Prof. C.), Barisal Guns, 353; the Altitude of the Aurora Borealis, 603  
 Abbott (W. J. L.), some Particulars of Henry Lewis's Career, 16  
 Aberration, Constant of, and Stellar Magnitudes, Prof. Doberck, 258  
 Aberson (J. H.), a New Isomeride of Malic Acid, 232  
 Ackworth Birds, being a List of Birds in the District of Ackworth, Yorkshire, Major Walter B. Arundel, 292  
 Acland (H. D.), Volcanic Series in Malvern Hills, 142  
 Acland (Sir Henry W., K.C.B., F.R.S.), Medical Missions in their Relation to Oxford, 222  
 Acoustics: Study of Speaking Voice by Phonograph, M. Marage, 23; the Spirate Fricatives, Dr. Lloyd, 46; Max Meyer's Theory of Audition, Dr. S. P. Thompson, 166; Thermophones, F. Braun, 335  
 Actinometer, an Absolute, A. Crova, 95  
 Adenoid Growth, Dr. H. W. Meyer, 625  
 Adschidarja Gulf, the, 525  
 Aeronautics: Fifth International Balloon Ascent of June 8, 1898, 278; a Propeller Kite, Laurence Hargrave, 312; the Use of Kites in Meteorology, 382; Captive Kite Balloon Trials, 382; Experiments in Aerial Research, Percival Spencer, 327; the International Aeronautical Conference, 380; the Instrumental Equipment of Balloons, 381; Ascent of Balloon Sonde "Langenburg," 382; Proposed Balloon-Exploration of Africa, M.M. Dex and Dibos, 399; Remarkable Balloon Ascent, Stanley Spencer and Dr. Berson, 513; attempted Balloon Passage of Alps, Capt Spelterini, 549  
*Aethurus glirinus*, a New Rodent, W. E. de Winton, 95  
 Africa: Travels in the Coastlands of British East Africa and the Islands of Zanzibar and Pemba, W. W. A. Fitzgerald, 6; a Plague Centre in German East Africa, Prof. Koch, 254; Report of Cape of Good Hope Bacteriological Institute, 278; Proposed Balloon Exploration of Africa, M.M. Dex and Dibos, 399; the Marine Fauna in Lake Tanganyika, and the Advisability of Further Exploration in the Great African Lakes, J. E. S. Moore, 404; South African Coleoptera, L. Péringuey, 423; the Tsetse Disease in Mammals, Prof. Kanthack and Mr. Durham, 426; Trout Acclimatisation in Cape Colony, J. D. F. Gilchrist, 628  
 Agamennone (Dr.), Mean Surface-Velocity of Pulsations from Calcutta Earthquake of June 12, 1897, 109; Attempt to Calculate Velocity of Aidin Earthquake of August 9, 1895, 421  
 Agassiz, the Glacial Lake, Warren Upham, 81  
 Agriculture: Travels in the Coastlands of British East Africa and the Islands of Zanzibar and Pemba, W. W. A. Fitzgerald, 6; Death of M. Demontzey, 16; Nitrogenous Nutrition of Phanerogamous Plants, L. Lutz, 24; Method of Reducing Losses of Ammonia in Manufacture of Farm Manure, P. P. Déherain, 71; a Text-Book of Entomology, including the Anatomy, Embryology, and Metamorphoses of Insects, for Use in Agricultural and Technical Schools and Colleges, Prof. Alpheus S. Packard, 244; Study of Phosphoric Acid Dissolved by the Water of the Soil, 384; Tea, Coffee, and Cinchona Cultivation in India, 423; Toxicity of Copper Salts for Wheat, H. Coupin, 492; Action of Lime and Chalk on Humic Materials, G. André, 564  
 Air, on a New Constituent of Atmospheric, Prof. William Ramsay, F.R.S., and Morris W. Travers, 127  
 Air, Liquid, at One Operation, Lord Rayleigh, F.R.S., 199  
 Air Waves, Formed by Projectiles, Studied by Means of Interference Bands, Herr Mach, 422  
 Aitchison (Surgeon-Major J. E. T., M.D., F.R.S.), Death of, 550; Obituary Notice of, W. Botting Hemsley, F.R.S., 578  
 Akerman (R.), the Swedish Iron Industry, 430  
 Albahary (J. M.), Ovalbuminic Acid, 288  
 Albert-Levy (M.), the Carbonic Acid of the Air, 168  
 Albrecht (Prof.), the Movement of the Earth's Polar Axis, 1890-1897, 5, 42  
 Albumens, Prof. A. Kossel on, 481  
 Albuminous Substances, Synthesis of, Dr. Leo Lilienfeld, 351  
 Alcock (A. W.), Report on the Natural History Results of the Pamir Boundary Commission, 493  
 Algæ: Reproduction of *Dictyota dichotoma*, Lloyd Williams, 632; Form of Protoplasmic Body in Florideæ, Prof. Philips, 633  
 Algebra: Connection of Algebraic with Automorphic Functions, E. T. Whittaker, 93; Introduction to Algebra, for the Use of Secondary Schools and Technical Colleges, G. Chrystal, 340; a Treatise on Universal Algebra, with Applications, Alfred North Whitehead, 385  
 Algeria: L'Algérie, le Sol et les Habitants, J. A. Battandier et L. Trabut, 51; Climate of Algeria, Dr. A. Thevenet, 117  
 Allaire (H.), Double Iodides and Borates, 635  
 Allen (Prof. F. J.), a High Rainbow, 175; Stereochemistry and Vitalism, 520  
 Allen (Dr. Harrison), Study of Hawaiian Skulls, 230  
 Alloys: the Electrical Resistance and Micro-Structure of, Saville Shaw, 356; Dr. A. Galt on the Heat of Combination of Metals in the Formation of Alloys, 532; Surfusion of Metals and, Prof. W. C. Roberts-Austen, F.R.S., 619; an Old Alloy, D. Berthelot, 635  
 Alternators, High Speed Telegraph Transmission by Means of, Prof. A. C. Crehore, Lieut. G. O. Squier, 211  
 Aluminium for Cooking Utensils in India, the Use of, Prof. Chatterton, 488  
 Amagat (E. H.), Compressibility of Air as Gaseous Mixture, 287  
 Amazon River at Obydos, Volume of, Dr. Friedrich Katzer, 399  
 Amazonian Rubber, the Supply of, W. A. Churchill, 603  
 Amboy Clays, the Flora of the, John Strong Newberry, 81  
 Ameghino (M.), *Arhino lemur*, a New Mammifer, 492  
 America: American Journal of Mathematics, 22; American Journal of Science, 92, 117, 187, 335, 432, 539, 634; Bulletin of American Mathematical Society, 92, 187, 310, 431; Ceremonial Dances of the American Indians, 125; the American Association, 233; Boston Meeting, 486; the American Excavations in Mesopotamia, J. P. Peters, 243; Bird Neighbours: an Introductory Acquaintance with One Hundred and Fifty Birds commonly found in the Gardens, Meadows, and Woods about our Homes, Neltje Blanchan, 388; Glyptic and Graphic Art applied to Palæontology, 392; Bird Studies, an Account of the Land Birds of Eastern North America, W. E. D. Scott, 541  
 Amsterdam Academy of Sciences, 47, 143, 288, 359, 636  
 Anu-Daria, the Old Beds of the, 430  
 Anatomy: Lehrbuch der Entwicklungsgeschichte des Menschen, Dr. J. Kollmann, 77; Anatomy of the Swallows, Dr. R. W. Shufeldt, 199; Death of Dr. E. J. Bonsdorff, 396; Elements of the Comparative Anatomy of Vertebrates, Dr. Robert Wiedersheim, W. N. Parker, 409; *Anatomia vegetale*, Dr. F. Tognini, 100  
 Anæsthetics, Action on Protoplasm of, J. D. Farmer and A. D. Waller, F.R.S., 93  
 Analysis of Ores, Methods for the Iron and Steel, in Use at the Laboratories of Iron and Steel Works in the Region about Pittsburg, Pa., John Parry, 149

- Ancient Bronze Implement, Bacteria on an, Wm. Edward Nicholson, 32; Dr. G. L. Johnson, 52  
 Andeer (J. I.), Bone-softening by Phoroglucinol, 47  
 Anderlini (F.), Solfatara Gases, 269  
 André (G.), Action of Lime and Chalk on Humic Materials, 564  
 Andres (Signor A.), Death among Lower Organisms, 628  
 Andrews (C. W.), a Preliminary Account of Christmas Island in the Indian Ocean, 587  
 Andromeda, the Nebula of, 515; M. Seraphimoff, 605  
 Angling Days and an Angler's Books, Jonathan Dale, 292  
 Angora Goat, the, and a Paper on the Ostrich, S. C. Cronwright Scheiner, 314  
 Animal Intelligence, an Experimental Study of the Associative Processes in Animals, Edward L. Thorndike, Prof. C. Lloyd Morgan, 249, 390  
 Animals, the Play of, a Study of Animal Life and Instinct, Karl Groos, 410  
 Animals and Poisonous Plants, Alfred W. Bennett, 571; Edward M. Langley, 597  
 Animals, the Wanton Mutilation of, Dr. George Fleming, 605  
 "Anlage"? What is, Dr. Arthur Willey, 390  
 Antagonism between Toxins and Antitoxins, the Nature of the, 323  
 Antarctica; Plea for a British Expedition, Sir John Murray, 604  
 Antelope Horns, Larvæ in, Dr. Henry Strachan, 468; W. H. McCorquodale, 468  
 Anthropology: in Madras, Edgar Thurston, 82; Anthropological Society, 189; Totemism, Prof. E. B. Tylor, F.R.S., 189; Reconstruction of Stature of Prehistoric Races, Karl Pearson, F.R.S., 286; Aspects of Sun Worship among the Moki Indians, 295; Human Effigy Vase from Arizona, J. W. Fewkes, 301; Australian Divisional Systems, R. H. Mathews, 312; the Study of Man, Alfred C. Haddon, 410; Death of Gabriel de Mortillet, 522; Obituary Notice of, 550  
 Anti-Tidal Protective Coast Plantation in Japan, Dr. Seiroku Honda, 627  
 Anti-Toxins, Bile of Venomous Serpents most powerful, Prof. F. R. Fraser, 461  
 Apodidae, Hermaphroditism in the, Henry Bernard, 78  
 Applied Geology, J. V. Elsdon, Part I., 615  
 Aquatic Hymenopteron, Fred Enock, 175  
 Y Aquilæ, the Supposed Variable, 182  
 Arabs, Immunity against Typhoid Fever of, M. Vincent, 86  
 Arachnidae: Spider and Pitcher-Plant, R. I. Pocock, 274; *Araneæ hungarica*, Cornelio Chyzer, Ladislao Kulczynski, R. I. Pocock, 365  
 Archaeology: Chinese Antiquities at Shashih, 133; Metal-backed Glass Mirrors of Antiquity, D. Berthelot, 359; the Reliquary and Illustrated Archaeologist, 615; the Phylakopi (Melos) Excavations, Mr. Hogarth, 627  
 Architects, Underwriters, and the Owners of Buildings, Electric Wiring for the use of, Russell Rob, 313  
 Arctic: the Coasts of the Arctic Ocean, Dr. K. Hiksh, 278; suggested "Ice-breaker" Expedition to North Pole, Admiral Makaroff, 353; the German Polar Expedition, 397; Return of the Swedish Expedition, 523; Northward over the "Great Ice," Robert E. Peary, Dr. Hugh Robert Mill, 589  
 Argon, Companions of, Prof. William Ramsay, F.R.S., and Morris W. Travers, 182  
 Argon, Helium and Krypton, Position of, in Scheme of Elements, Sir William Crookes, F.R.S., 383  
 Arizona, Human Effigy Vase from, J. W. Fewkes, 301  
 Arloing (S.), Influence of Place and Mode of Introduction on Development of Immunising Effects of Anti-Diphtheritic Serum, 23; Formation in Blood Serum, under Chemical Action, of Material coagulating Bacilli of Tuberculosis, 143; Clinical Value of Agglutination of Koch's Bacillus by Human Serum, 540  
 Armitage (E.), Iridescent Clouds, 390  
 Arnaud (M.), Products of Hydrolysis of Ouabaine, 23; Ouabaine Acid, 47  
 Arons (L.), Microscopic Observations of Coherees, 491  
 D'Arsonval (M.), Thermogenesis in Tetanus, 336  
 Art, the, and Science Buildings at South Kensington, 155  
 Artificial Food, Dr. Sidney Williamson, 368  
 Arundel (Major Walter B.), Ackworth Birds, being a List of Birds in the District of Ackworth, Yorkshire, 292  
 Arzruni (Prof. Andreas), Death of, 603  
*Asagena phalerata*, H. W. Freston, 635  
 Aschkinass (E.), Absorption and Emission of Steam and Carbonic Acid in Infra-Red Spectrum, 93; Transparency of some Liquids for Rays of Great Wave-length, 93  
 Ashanti, Botany of, Surg.-Capt. Cummins, 208  
 Asher (Dr. L.), on the Theory of Lymph Production, 481  
 Ashworth (J. H.), the *Xenidae*, 335  
 Ashworth (J. Reginald), an Introductory Course of Practical Magnetism and Electricity, 466  
 Asia, the Cuneiform Inscriptions of Western, L. W. King, 341  
 Assyrian, First Steps in, L. W. King, 341  
 Astronomy: a Proposed Revolution in Nautical Astronomy, 10; Our Astronomical Column, 19, 41, 60, 88, 111, 134, 160, 181, 210, 232, 258, 280, 304, 330, 350, 375, 400, 424, 463, 490, 515, 526, 553, 583, 605, 630; Comet Perrine (March 19), 19, 42, 60, 258; Dr. Berberich, 400; Comet Perrine (June 14), 181, 232, 258, 280; Comet Perrine-Chofardet, 515; Tempel's Comet (1867 II.), M. Gautier, 19; Comet Tempel 1866? 515; Herr Pechuele, 490; Kirchhoff's Spectroscope, Prof. Vogel, 19; Jupiter's Red Spot, Dr. Lohse, 20; the Red Spot on Jupiter and its Suspected Identity with Previous Markings, W. F. Denning, 331; the First Satellite of Jupiter, A. E. Douglass, 210; Observations of Jupiter during the Opposition, 1898, Sir J. C. Solà, 526; the Spectrum of Hydrogen in Nebulae, Prof. Scheiner, 41; the Movement of the Earth's Polar Axis, 1890-0-1897? 5, Prof. Albrecht, 42; the Northern "Durchmusterung," 42; the Astronomical Society of Wales, 42; Observations of Variable Stars, Dr. Francesco Porro, 60; a New Long Period Variable, Herren Müller and Kempf, 60; Variable Stars of Short Period, Prof. E. C. Pickering, 181; the Variable  $\alpha$  Ceti, Herr W. Stratonoff, Dr. A. A. Nijland, 330; a New Variable Star, Madame Ceraski, 424; Atlas of Variable Stars, Dr. J. G. Hagen, 606; Variable Stars in Clusters, Prof. Bailey, 583; the supposed Variable Y Aquilæ, 182; France and International Time, 60; Astronomical Destination of Cromlechs near Dublin, Prof. J. P. O'Reilly, 61; Sunspot Period, W. Ellis, F.R.S., 61; Magnetism and Sunspots, William Ellis, F.R.S., 78; Sunspot Periods and Natural Phenomena, M. C. Flammarion, 134; a Large Sunspot, 463, 553, 630; Astronomical Occurrences in June, 88; in July, 210; in August, 304; in September, 424; in October, 526; in November, 630; Mr. Tebbutt's Observatory, 88; Photography by the Aurora Borealis, J. E. Turner, 88; the Aurora Borealis of September 9, Baron N. Kaulbars, 569; an Absolute Actinometer, A. Crova, 95; Sun Worship by Tusayan Indians, Dr. J. Walter Fewkes, 111; Stellar Radiations, Prof. Ayrton, 112; the Late Prof. Souillart, 112; the Companion to Procyon, Prof. Schaeberle, 134; the Liverpool Observatory, 134; Double and Multiple Southern Stars, Dr. T. J. J. See, 134; Blurring Aberration in the Telescope, Prof. Schaeberle, 88; J. R. Collins, 88, 280; Nautical Astronomy, Captain J. F. Ruthven, 151; Encke's Comet, 160; the Movement of, Prof. Reginald A. Fessenden, 520; New Determination of the Earth's Density, Dr. C. Braun, 160; the Large Refractors of the World, Prof. G. E. Hale, 160; the Leeds Astronomical Society 160; a New Astronomy, Prof. David P. Todd, 173; Comets now Visible, 181, 210; the 40-inch Yerkes Refractor, Prof. Barnard, 181; the Oxford University Observatory, Prof. Turner, 182; on the Stability of the Solar System, M. H. Poincaré, 183; Elements of Descriptive Astronomy, Herbert Howe, 198; the Meteor Shower of November 13, 1897, 210; August Meteors, 330, 490; Large Meteors in 1897 and 1898, W. F. Denning, 583; Minor Meteoric Radiants, W. F. Denning, 424; Latitude Variation in a Rigid Earth, Prof. Henry Crew, 232; Conference of Astronomers at Harvard, 232; a Fine Collection of Meteorites, 232; Fall of a Meteorite in Bosnia, 375; Cometary News, 258; Stars having Peculiar Spectra, Prof. Pickering, Mrs. Fleming, Miss Cannon, 258; the Constant of Aberration and Stellar Magnitudes, Prof. Doberck, 258; the Eclipsed and Uneclipsed Sun, M. Deslandres, 258; a New Form of Grating Spectroscope, Prof. Michelson, 280; Structure of the H and K Lines, Mr. Jewell, 280; the Minor Planets, John K. Rees, 304; Mars in 1896-1897, Prof. V. Cerulli, 304; Creation Records discovered in Egypt, G. St. Clair, 315; the Moon and Auroræ, Prof. H. A. Hazen, 304; Wolf's Comet, 330, 356, 375; Dr. Gill on Sir John Herschel, 356; the Paris Observatory, 356; the French Astronomical Society, 356; Dogmatism on the Moon and the Weather, 368; the Moon's Course, Sir Samuel Wilks, Bart., F.R.S., 496; J. Hughes Hemming, 545; E. L. Garbett, 571; the New Observatory at Heidelberg, 376; Reminiscences of

- an Astronomer, Prof. Simon Newcomb, 376, 583, 606; a Trip to Venus, John Munroe, 366; the First Philosophers of Greece, Arthur Fairbanks, 386; Parallaxes and Masses of  $\gamma$  Virginis and  $\gamma$  Leonis, Dr. Belopolsky, 400; a Catalogue of Fourth-Type Stars, Rev. T. E. Espin, 401; the Great Telescope for the Paris Exhibition, 424; Planet 1898 DQ, Jean Mascart, 432; the Atmosphere of D. M. + 30° 3639, Prof. Keeler, 463; the Exterior Nebulosity of the Pleiades, 463; Luminosity of Gases in Vacuum Tubes, 463; the Variation of Latitude at Tokyo, H. Kimura, 490; Motion of Stars in the Line of Sight, M. Deslandres, 490; Drawings of the Milky Way, 490; the Nebula of Andromeda, 515; Catalogue of Nebulae, Lewis Swift, 515; the Planet between the Earth and Mars, Herr G. Witt, 526; Photograph of the Chromosphere, Prof. Naegamvala, 526; Periodic Comets, M. Schulhof, 526; Prof. Turner, Mrs. Maunder, and Sir Norman Lockyer on the recent Solar Eclipse Expedition, 533-4; a Text-Book of Geodetic Astronomy, John F. Hayford, 543; New Teaching Observatory for the California University, 553; Annual Report of the Cambridge Observatory, 553; Annual Publication of the Observatory of Rio de Janeiro for 1898, 553; Changes in Large Nebula in Belt of Andromeda, G. Rayet, 564; the Cape Observatory Report, 584; the Andromeda Nebula, M. Seraphimoff, 605; Comet Brooks, 630; Harvard Astrophysical Conference, 630
- Astrophysics: the Harvard Conference, 630; Solar Radiation, J. Evershed, 619
- Asymmetry and Vitalism, Prof. G. Errera, 616; Prof. F. R. Japp, F.R.S., 616
- Athens, the British School at; the Phylakopi (Melos) Excavations, Mr. Hogarth, 626
- Atlantic, North, Pilot Chart for June of, 178
- Atlas of Variable Stars, Dr. J. G. Hagen, 606
- Atmosphere of D. M. + 30° 3639, Prof. Keeler, 463
- Atmosphere, Helium in the, Sir William Crookes, F.R.S., 570
- Atmosphère, Méthode pour abréger les traversées en utilisant les perturbations de P. A. Fieron, 197
- Atmospheric Air, on a New Constituent of, Prof. William Ramsay, F.R.S., and Morris W. Travers, 127
- Atmospheric Electricity, International Conference of Terrestrial Magnetism, and Opening Address, by Prof. A. W. Rücker, Sec. R.S., President of the Conference, 473
- Atoll of Funafuti, the, Ellice Group: its Zoology, Botany, Ethnology, and General Structure, based on Collections made by Mr. Charles Hedley, of the Australian Museum, Sydney, N.S.W., 221
- Atolls, the Building of, Stanley Gardiner, 425
- Atomic Theory, Modern Development of the, J. H. Van't Hoff, 100
- Atoms in Space, the Arrangement of, J. H. Van't Hoff, 100
- Atwater (Prof.), Does the Law of Conservation of Energy hold good for the Vital Processes going on in the Human Body? 532
- August Meteors, 330, 490
- Aurora Borealis: C. E. Strohmeier, 460; H. Deslandres, 516; the Aurora of September 9, 490; Hon. Rollo Russell, 496; Baron N. Kaulbars, 569; the Altitude of the Aurora Borealis, Prof. C. Abbe, 603; Luminous Clouds or Aurora, J. Edmund Clark, 546; the Origin of the Aurora Spectrum, Prof. Arthur Schuster, F.R.S., 151; the Moon and Aurora, Prof. H. A. Hazen, 304; Photography by the Aurora Borealis, J. E. Turner, 88
- Austen (E. E.) on the Occurrence of *Eristalis tenax* in India, 101
- Austen (Martha), Estimation of Manganese separated as Carbonate, 117
- Australia: Severe Storm off North-West Australia, W. E. Cooke, 178; Obsidian "Buttons" in Australia, 109; Australian Shipworms, C. Hedley, 240; Australian Divisional Systems, R. H. Mathews, 312; Telephonic Communication between Australian Farms, 524
- Automobiles sur Rails, G. Dumont, 495
- Ayrton (Mrs.), on the Drop of Potential at the Terminals of the Electric Arc, 533
- Ayrton (Prof. W. E., F.R.S.), Galvanometers, 93; Stellar Radiations, 112; Opening Address in Section A of the British Association, 448; the Magnetic and Electrolytic Actions of Electric Railways, 533
- Babbitts' Anti-Friction Metal, Prof. H. Behrens and H. Baucke, 359
- Bacteriology: Bacteria on an Ancient Bronze Implement, 51; Wm. Edward Nicholson, 32; Dr. G. Lindsay Johnson, 52; the Bacterial Character of Calf-Lymph, Mrs. Percy Frankland, 44; the Sero-Diagnostic Test for Typhoid Fever, Dr. McWeeney, 47; Vorlesungen über Bacterien, Dr. Alfred Fischer, 76; System der Bakterien, Prof. W. Migula, Prof. A. A. Kanthack, 97; Formation in Blood Serum, under Chemical Action, of Material Coagulating Bacilli of Tuberculosis, S. Arloing, 143; New Microbe Pathogenic to Rats, Dr. Issatschenko, 179; a Bacillus in Milk, Dr. C. McClure, 254; Cyclists and Dust-Bacteria, 254; the Utilisation of Micro-Organisms in the Arts and Manufactures, Dr. Franz Lafar, 265; Report of Cape of Good Hope Institute, 278; Action of Sorbose Bacteria on Xylose, Gabriel Bertrand, 287; Relation of Obligatous Anaerobics to Free Oxygen, Prof. Beyerinck, 288; Locust-Destroying Fungus, Dr. Edington, 354; Artichokes as Culture-Medium for Bacteria, M. Roger, 354; the Culture of Koch's Bacillus, M. Carnot, 354; Clinical Value of Agglutination of Koch's Bacillus by Human Serum, S. Arloing and Paul Courmont, 540; a New Trichophyton productive of Herpes in Horse, MM. Matruchot and Dassonville, 359; the Toxicity of Eel-Serum, and Further Studies on Immunity, Mrs. Percy Frankland, 369; Bacteriology of London Sewage, 374; Prof. Percy Frankland on an Additional Photographic Action—that of Bacteria, 557; Effect of Polluted Soil on Vitality of Typhoid Bacillus, Dr. Sidney Martin, 577; Bacterial Process of Sewage Purification, Rudolph Hering, 628
- Bailey (Charles), Jacquin's Oxlip, 46
- Bailey (L. H.), Garden-Making, 290; the Pruning-Book, 290
- Bailey (Prof.), Variable Stars in Clusters, 583
- Baille (J. B.), New Method of Determining Mechanical Equivalent of Heat, 119
- Baillie (T. C.), Thermal Conductivity of Nickel, 143
- Baker (H. B.), Drying of Ammonia and Hydrogen Chlorides, 23
- Baker (R. T.), Essential Oils of Eucalyptus Genus, 464
- Baker (W. M.), Examples in Analytical Conics for Beginners, 318
- Balfour (Right Hon. Arthur), on the Medical Profession and its Work, 277; on Examinations, 634
- Ballard (M.), Millet, 336
- Ballistics: the Phenomena of Air Waves, formed by Projectiles, studied by Means of Interference Bands, Herr Mach, 422
- Ballooning: Fifth International Ascents of June 8, 1898, 278; Experiments in Aerial Research, Percival Spencer, 327; Proposed Balloon-Exploration of Africa, MM. Dex and Dibos, 399; the International Aeronautic Conference, 381; the Instrumental Equipment of Balloons, 382; Captive Kite Balloon Trials, 382; Ascent of Balloon Sonde "Langenburg," 382; Remarkable Balloon Ascent, Stanley Spencer and Dr. Berson, 513; Attempted Passage of Alps, Captain Spelterini, 549
- Baly (Edward C. Cyril), the Spectrum of Metargon, 245; Helium in the Atmosphere, 545
- Barisal Guns, Dr. A. Cancani, 130; Prof. C. Abbe, 353
- Barlow (Dr. W. S. Lazarus), a Manual on General Pathology for Students and Practitioners, 244
- Barnard (Prof.), the 40-inch Verkes Refractor, 181
- Barnes (Charles Reid), Plant Life, considered with Special Reference to Form and Function, 519
- Barometers, Kew Experiments on Aneroid, Dr. Chree, F.R.S., 215
- Barrett (James W.), a White Sea, 496, 619
- Barringer (D. M.), a Description of Minerals of Commercial Value, 124
- Barry (Sir John Wolfe, K.C.B., LL.D., F.R.S.), Opening Address in Section G of the British Association, 506
- Barry Docks, Visit of Section G of the British Association to, 608
- Barton (E. H.), Attenuation of Electric Waves along Line of Negligible Leakage, 167
- Bartlett (Albert T.), Transference of Heat in Cooled Metal, 411
- Bartrum (Clement O.), Chance or Vitalism, 545
- Barus (C.), the Jelly Theory of the Ether, 634; the Compressibility of Colloid, 634
- Bassenthwaite, Lake, Rotifers in, Prof. Sydney J. Hickson, F.R.S., 200; W. T. Calmen, 271
- Bastian (C. Orme), Electric Current Meter acting by Electrolysis, 61
- Bates (A. S.), Electrical Impressions on Photographic Plates, 32
- Bather (F. A.), the Use of Digraps, 412
- Batrachians of Europe, the Tailless, G. A. Boulenger, F.R.S., 567



- Battandier (J. A.), L'Algérie. Le Sol et les Habitants, 51  
 Baucke (H.), Babbitts' Anti-Friction Metal, 359  
 Baugé (H. G.), New Hydrated Chromium Oxide, 635  
 Baur (Prof. Georg), Obituary Notice of, 350  
 Bayley (W. S.), the Marquette Iron-Bearing District of Michigan, 82  
 Bayliss (Dr. W. M.), on the Non-Antagonism of Visceral and Cutaneous Vascular Reflexes, 481; on an Influence of Blood-supply on Peristaltic Movement, 484  
 Beacall (Thos.), a Tooth of *Hybodus grossicornis* from the Inferior Oolite, 390  
 Beard (Dr. John), the Span of Gestation and the Cause of Birth, Dr. Arthur Robinson, 173  
 Bebb (Prof. Dr. W. J. van), Die Wettervorhersage, 28  
 Becquerel (Henri), New Observations on Zeeman Phenomenon, 264  
 Becquerel Rays, the, O. M. Stewart, 230  
 Bedard (Dr.), on the Action of Arsenic upon the Intoxication produced by Ingestion of the Thyroid Body, 484  
 Beddard (Frank E.), Elementary Practical Zoology, 318  
 Bee-Poison, the Immunity of Bee-keepers from, Dr. Langer, 18  
 Bee Stings, Wasp and, Sir J. F. D. Donnelly, 435  
 Beecher (C. E.), the Origin and Significance of Spines, 335, 539, 635  
 Beer (Dr. Theodore), upon the Accommodation of the Eye in various Species of the Animal Kingdom, 483  
 Behrens (Prof. H.), Babbitts' Anti-Friction Metal, 359  
 Belopolsky (Dr.), Parallaxes and Masses of  $\gamma$  Virginis and  $\gamma$  Leonis, 400  
 Ben Nevis Observatories, the, 298, 350  
 Benham (Prof. W. Blaxland), a Fourth Specimen of *Notornis mantelli*, Owen, 547; a Request for Zoological Literature, 520  
 Benin, Cast Metal Work from, 224  
 Bennett (Alfred W.), Animals and Poisonous Plants, 571  
 Berberich (Dr.), Comet Perrine (March 19), 400  
 Berger (Paul), Inter-Capulothoracic Amputation in Malignant Tumours of Humerus, 588  
 Berkeley (the Earl of), on the Methods he has adopted for the more Exact Determination of the Densities of Crystals, 556  
 Berlin Geographical Society's Greenland Expedition, Erich von Drygalski, Prof. James Geikie, F.R.S., 413  
 Bernard (Henry), Hermaphroditism in the Apodidae, 78  
 Berndt (L.), Das Optische Drehungsvermögen Organischer Substanzen und Dessen Praktische Anwendung, 172  
 Berson (Dr.), Remarkable Balloon Ascent, 513  
 Berthelot (Daniel), Apparatus illustrating Berthelot's Interference Method of Measuring High Temperatures, Prof. W. C. Roberts-Austen, F.R.S., 62; Molecular Weights of Easily Liquefiable Gases, 96; the Decomposition of Water by Chlorous Salts, 264; Reaction between Hydrogen and Nitric Acid, 264; Decomposition of Nitric Acid by Heat, 287; Metal-backed Glass Mirrors of Antiquity, 359; the Relation between the Energy of Light and Chemical Energy, 375; Bouchard's Theory of Transformation of Fat into Glycogen, 612; an Old Alloy, 635  
 Bertrand (Gabriel), Action of Sorbose Bacteria on Xylose, 288  
 Besant (Dr. W. H.), Elementary Conics, 318  
 Bettoni (Dr. Eugenio), Death of, 626  
 Bevan (E. J.), Carbohydrates of Barley-Straw, 23; Action of Hydrogen Peroxide on Carbohydrates in Presence of Iron, 94  
 Beyerinck (Prof.), Relation of Obligatory Anaerobics to Free Oxygen, 288  
 Bezold (Prof. von), on the Magnetic and Electrolytic Actions of Electric Railways, 533  
 Bianchi (A.), Effect of Bicycling on Lungs and Heart, 464  
 Bicycling Effect on Lungs and Heart of, by A. Bianchi and F. Regnault, 464  
 Biedermann (W.), Electro-Physiology, 150  
 Biedl (Dr. Arthur) on the Blocking of the Thoracic Duct on the removal of the Lymph from it by a Cannula producing a Glycosuria even in Fasting Animals, 486  
 Bigelow (Prof. F. H.), Magnetism and Meteorology, 86; Solar and Terrestrial Magnetism in relation to Meteorology, 187  
 Bigelow (S. L.), Catalytic Action of Organic Substances on Oxidation of Sodium Sulphate, 400  
 Biology: Scientific Worthies: Albert von Kölliker, Prof. W. F. R. Weldon, F.R.S., 1; Micro-Biology as applied to Hygiene, 15; Death of Dr. C. H. Hurst, 58; Organographie der Pflanzen, Dr. K. Goebel, 74; Rotifers in Lake Bassenthwaite, Prof. Sydney J. Hickson, F.R.S., 200; W. T. Calmen, 271; the Life History of the Salmon, 280; Biology of Lake Bologoye, 300; Recent Advances in Science and their Bearing on Medicine and Surgery, Prof. R. Virchow, For. Member R.S., 554; the Development of the Tuatara Lizard, Prof. A. Dendy, 609; Stereo-Chemistry and Vitalism, Prof. Japp, F.R.S., 452; Prof. Karl Pearson, F.R.S., 495; Prof. F. J. Allen, 520; Prof. G. F. Fitzgerald, F.R.S., 545; C. O. Bartrum, 545; Herbert Spencer, 592; Asymmetry and Vitalism, Prof. G. Errera, 616; Prof. F. R. Japp, F.R.S., 616; Death among Lower Organisms, Signor A. Andres, 628; Floral Biology: Handbuch der Blütenbiologie unter zugrundelegung von Hermann Müller's werk: "Die Befruchtung der Blumen durch Insekten," Dr. Paul Knuth, Francis Darwin, F.R.S., 434; Marine Biology: Food-Reception by Sponges, Dr. Vosmaer and Prof. Pekkela, 47; Position of Sponges in Animal Kingdom, Prof. Yves Delage, 425; E. A. Minchin, 426; Mr. Saville-Kent, 426; the Phyto-Plankton of the Atlantic, George Murray, F.R.S., and V. H. Blackman, 70; Relations between Hybrid and Parent Forms of Echinoid Larvae, H. M. Vernon, 118; Annual Meeting of Marine Biological Association, 228; the *Xenidae*, J. H. Ashworth, 335; the Building of Atolls, Stanley Gardiner, 425; Origin of Echinoderms, Prof. MacBride, 427; Flying Entomostraca, Herr Ostrovomov, 513; Arborescent Organs of Holothuria, L. Borda, 635  
 Bird (George), a School Geography, 411  
 Birds: Birds in London, W. H. Hudson, 172; the Fauna of British India, W. T. Blanford, 195; Wolmer Forest as a Sanctuary for Birds, 255; Ackworth Birds, being a List of Birds in the District of Ackworth, Yorkshire, Major Walter B. Arundel, 292; the Destruction of the Birds and Mammals of the United States, William T. Hornaday, 308; a Dictionary of Bird Notes, C. L. Hett, 366; Bird Neighbours: an Introductory Acquaintance with One Hundred and Fifty Birds commonly found in the Gardens, Meadows, and Woods about our Homes, Neltje Blanchan, 388; Social Instinct in Birds, B. B. Osmonson, 398; Bird Studies, an Account of the Land Birds of Eastern North America, W. E. D. Scott, 541  
 Birge (Dr. E. A.), Plankton Studies on Lake Mendota, 259  
 Birmingham, the Proposed University for, 226  
 Birth, the Span of Gestation and the Cause of, Dr. John Beard, Dr. Arthur Robinson, 173  
 Birth, the Time of Day of, Signor Raseri, 523  
 Blackie (Dr. Brunton), Examination of the Muscle of Dogs which had been bled to Death, 484  
 Blackman (V. H.), the Phyto-Plankton of the Atlantic, 70  
 Blake (Prof. J. F.), on Aggregate Deposits and their Relation to Zones, 558  
 Blake (R. F.), the Carbonic Anhydride of the Atmosphere, 464  
 Blanchan (Neltje), Bird Neighbours: an Introductory Acquaintance with One Hundred and Fifty Birds commonly found in the Gardens, Meadows, and Woods about our Homes, 388  
 Blandford (W. T.), the Fauna of British India, Birds, 195  
 Blazquez (Antonio), Precise Length of Roman Mile, 109  
 Bley (Franz), Botanisches Bilderbuch für Jung und Alt, 466  
 Blind, the Effect of Movement imparted by Tactile Impression to the, 588  
 Block Island, Prehistoric Fauna of, G. F. Eaton, 432  
 Blondlot (R.), Direct Measurements of Electricity in Electromagnetic Units, 191  
 Blood, the, How to Examine and Diagnose its Diseases, Alfred C. Coles, 269  
 Blurring Aberration in the Telescope, Prof. Schaeberle, 88; J. R. Collins, 88, 280  
 Bocher (Prof.), Poisson's Integral, 310  
 Bog Iron Ore, Manganese from, 256  
 Boilers, Heat Efficiency of Steam, Land, Marine, and Locomotive, Bryan Donkin, 543  
 Bois (H. du), Atomic Susceptibilities of Water and Aqueous Solutions, 187  
 Bolam (Dr. H. W.), Electrolysis of Ethyl Potassium Diethoxysuccinate, 335  
 Bolas (Thomas), Glass Blowing and Working, 101  
 Bolas (T.), Reproduction by Photographic Processes, 204  
 Bologoye, Lake, Biology of, 300  
 Bollettino della Società Sismologica Italiana, 22, 359  
 Bolton (Dr. H. C.), Blue Grotto on Lake Minnewaska, N.Y., 525  
 Bone (W. A.) Action of Light on Acetylene, 238  
 Bone-Softening by Phoroglucinol, J. J. Andeer, 47  
 Bonetti (L.), Improvement in Radiographic Tubes, 240



Bonnefoi (J.), the Ammoniacal Chlorides of Lithium, 432;  
Combinations of Lithium Chloride with Methylamine, 612  
Bonney (Prof., F.R.S.), Garnet-Actinolite Schists on South Side  
of St. Gothard, 141  
Bonnier (Gaston), Alpine Character in Plants produced by  
Alternation of Extreme Temperatures, 384  
Bondsdorff (Dr. E. J.), Death of, 396  
Books of Science, Forthcoming, 535  
Book Worms, Facts about, Rev. J. F. X. O'Connor, 435  
Bordage (M.), Relation of Colour of Lepidoptera Chrysalids to  
Colour of Environment, 425  
Bordas (L.), Arborescent Organs of Holothuria, 635  
Boruttan (Prof.) Recent Advances in Electrophysiology, 483  
Bosnia, Fall of a Meteorite in, 375  
Botany: Nitrogenous Nutrition of Phanerogamous Plants, L.  
Lutz, 24; the Ceara Rubber Plant at Kew, 40; New Rubber-  
Extracting Machine, 58; Gutta-percha and India-rubber,  
236; Fiji Rubber, 302; Sources of India-rubber and Gutta-  
percha, Dr. D. Morris, 514; the Supply of Amazonian  
Rubber, W. A. Churchill, 603; Jacquin's Oxlip, Charles  
Bailey, 46; Linnean Society, 46, 141, 189, 215; Structure  
of *Dendroceros*, A. Gepp, 46; the Present Position of some  
Cell Problems, Prof. J. B. Farmer, 63; Missouri Botanical  
Garden, Ninth Annual Report, 77; Economic Botany in the  
West Indies, J. H. Hart, 87; Lenticels, H. Devaux, 96;  
Journal of Botany, 117, 264, 635; Growth of *Algae Nostoch*  
in Darkness, R. Bouilliac, 143; Open-air Studies in Botany,  
R. Lloyd Praeger, 150; on the Use of Methylene Blue as a  
Means of Investigating Respiration in Plants, Prof. J. B.  
Farmer, 185, 215; Psychrometer applicable to Study of Plant  
Transpiration, 187; New South Wales Linnean Society, 192,  
240, 359, 492, 635; the Making of a Daisy, Eleanor Hughes-  
Gibb, 198; Death of Prof. Anton Kerner, 206; Obituary  
Notice of, Dr. Otto Stampf, 251; Death of Prof. Ferdinand  
Cohn, 206; Obituary Notice of, Prof. J. B. Farmer, 275;  
Preservative Solution in Use at Ghent Botanic Garden and  
Prof. Errera's Process, J. M. Hillier, 208; Notes on Ashanti,  
Surg.-Capt. Cummins, 208; the Atoll of Funafuti, Ellice  
Group: its Zoology, Botany, Ethnology, and General Structure,  
based on Collections made by Mr. Charles Hedley of  
the Australian Museum, Sydney, N.S.W., 221; Vegetable  
Application used to Inflamm Eye by Malingering Egyptian  
Soldiers, Kenneth Scott, 255; Ingredient of Chinese Herbal  
Prescription, J. B. Davy, 255; Geological History of Recent  
British Flora, Clement Reid, 278; Death of Prof. Suringar,  
299; Report of Royal Gardens, Ceylon, J. C. Willis, 329;  
Chromatolysis in Plants, Dr. B. Longo, 329; on the Depletion  
of the Endosperm of the *Horidium vulgare* during Germination,  
Horace T. Brown, F.R.S., and F. Escombe, 331; Winter Con-  
dition of Reserve Food in *Lividodendron* Stems, E. M. Wilcox,  
335; Physiological Function of Iron in Vegetable Organism,  
Jules Stoklasa, 359; Pietine in Wheat, Louis Mangin, 359;  
a Yorkshire Moor, Prof. L. C. Miall, F.R.S., 377, 401;  
Alpine Character in Plants produced by Alternation of Ex-  
treme Temperatures, Gaston Bonnier, 384; Tea, Coffee, and  
Cinchona Cultivation in India, 423; Handbuch der Blüten-  
biologie unter zugrundelegung von Hermann Müller's werk:  
"Die Befruchtung der Blumen durch Insekten," Dr. Paul  
Knuth, Francis Darwin, F.R.S., 434; *Corallorhiza innata*  
and its Mycorrhiza, A. V. Jennings and H. Hanna, 464;  
Essential Oils of Eucalyptus Genus, R. T. Baker and H. G.  
Smith, 464; Annals of the Royal Botanic Gardens, Calcutta,  
vol. viii.: the Orchids of the Sikkim Himalaya, Sir George  
King and Robert Pantling, 465; Botanisches Bilderbuch für  
Jung und Alt, Franz Bley, 466; Anatomical Structure of  
Beetroot Stem, G. Fron, 492; a Text-book of Botany, Dr.  
E. Strasburger, Dr. Fritz Noll, Dr. H. Schenck, and Dr. A.  
F. W. Schimper, 494; Influence of Light on Wild Grapes  
and Ground Ivy, M. Maige, 516; the Attempts to fit China  
Grass and Ramie for Manufacturing Purposes, 523; Blue  
Grotto on Lake Minnewaska, N.Y., Dr. H. C. Bolton, 525;  
Botanical Exploration of Mount Kosciuszko, J. H. Maiden,  
551; Chlorophyll Assimilation in Maritime Plants, Ed.  
Griffon, 564; Animals and Poisonous Plants, Alfred W.  
Bennett, 571; Edward M. Langley, 597; Obituary Notice of  
Surgeon-Major J. E. T. Aitchison, M.D., F.R.S., W.  
Botting Hemsley, F.R.S., 578; Death of Dr. C. G. Gibeli,  
603; New York Botanical Garden, 603; Flora of County  
Donegal, H. C. Hart, 615; *Silphium* among the Ancient  
Greeks, Dr. Kronfeld, 628; the Temperature of Tree-stems,  
F. Schlechter, 629; the Knight-Darwin Law, Francis

Darwin, F.R.S., 630; Cause of Spiral Structure of Cheno-  
podiceae Roots, G. Fron, 635  
Bothamley (C. H.), on the Action of certain Substances on the  
Undeveloped Photographic Image, 557  
Bottone (S. R.), Radiography and the X-Rays, 292  
Boubée (Prof. P.), the Disposal of the Town Refuse of Naples,  
524  
Bouchard (M.), Increase of Weight of Body by Transformation  
of Fat in Glycogen, 588  
Bouchard's Theory of the Transformation of Fat into Glycogen,  
Daniel Berthelot, 612  
Boudouard (O.), Limit of Inflammability of Carbon Monoxide,  
71; Radiation of Incandescent Burners, 240  
Bouilhac (R.), Growth of *Algae Nostoch* in Darkness, 143  
Boulenger (G. A., F.R.S.), the Tailless Batrachians of Europe,  
567; Hibernating Reptilian Embryos, 619  
Bourget (Henry), Transference of Heat in Cooled Metal, 200,  
521  
Boutan (Prof. Louis), Submarine Photography, 18  
Boyce (Prof.), on the Physiological Structure of the Brain of  
the Fowl, 485  
Boys (C. V., F.R.S.), on Laboratory Arts, Richard Threlfall,  
145  
Brabrook (E. W., C.B., F.S.A.), Opening Address in Section II  
of the British Association, 506  
Brambilla (Prof.), Steiner's Surfaces, 627  
Branly (E.), Hertzian Oscillations arrested by thin Metallic  
Envelope, 264; Wireless Telegraphy and Collisions at Sea,  
312; Electrical Resistance at Contact of Two Discs of same  
Metal, 336  
Braun (Dr. C.), New Determination of the Earth's Density,  
160  
Braun (F.), Thermophones, 335  
Briggs (W.), Chemical Analysis, Qualitative and Quantitative,  
366  
Bright (Charles), Submarine Telegraphs, 289  
Bristol, Meeting of the British Association at, 471, 498;  
Sectional Forecast, 436; Inaugural Address by Sir William  
Crookes, F.R.S., V.P.C.S., President of the Association,  
438. See also British Association  
Bristol and Mechanical Science, Sir John Wolfe Barry, K.C.B.,  
LL.D., F.R.S., 506  
Bristol: Novel Plan of Increasing Dock-Capacity, 582  
BRITISH ASSOCIATION: Bristol Meeting of the, 36, 205, 392,  
412, 471, 498; Sectional Forecast, 436; Inaugural Address,  
Sir William Crookes, F.R.S., V.P.C.S., President of the  
Association, 438; Monium, 556; International Conference  
of Terrestrial Magnetism and Atmospheric Electricity,  
Opening Address by Prof. A. W. Rücker, Sec. R.S.,  
President of the Conference, 473; International Con-  
ferences and the British Association, 522; Phosphorescence,  
Mr. Herbert Jackson, 559  
Section A (Mathematics and Physics).—Opening Address by  
Prof. W. E. Ayrton, F.R.S., President of the Section,  
448; Prof. Rosa and Prof. Atwater on whether the Law of  
Conservation of Energy holds good for the Vital Processes  
going on in the Human Body, 532; Dr. A. Galt on the  
Heat of Combination of Metals in the Formation of Alloys,  
532; Mr. W. N. Shaw on Dalton's Law, 532; Dr. C. H.  
Lees on the Thermal Conductivity of Rocks at Different  
Pressures, 532; Mr. S. R. Milner and Prof. Chattock on  
the Thermal Conductivity of Water, 532; Mr. J. W.  
Gifford on Lenses not of Glass, 532; Prof. T. Preston on  
Radiation in a Magnetic Field, 532; Prof. S. P. Thompson  
on an Experiment by Right on the Production of the Zee-  
man Phenomenon by Absorption, 533; Mr. J. Burke on  
the Luminosity produced by Striking Sugar, 533; Mr. S.  
Skinner on the Carbon-Consuming Cell of Jaques, 533;  
Messrs. Cahen and Donaldson on the Results of some  
Comparisons of the Output and Efficiency of a Secondary  
Cell (Tudor Type) when charged at Constant Current and  
Constant Electromotive Force respectively, 533; Mrs.  
Ayrton on the Drop of Potential at the Terminals of the  
Electric Arc, 533; Prof. Chattock on Experiments to De-  
termine the Velocity of Electricity in the Electric Wind,  
533; Prof. Lodge on a New Magnifying Telephone, 533;  
Prof. S. Lemström and Dr. E. H. Cook on the Action of  
Electricity on Plants, 533; Dr. Schott, Prof. Rücker, Dr.  
Eschenhagen, Prof. von Bezold, W. H. Preece, Signor  
Palazzo, Prof. Fleming, Prof. S. P. Thompson, Prof.  
Ayrton on the Magnetic and Electrolytic Actions of

Electric Railways, 533; Prof. Turner, Mrs. Maunders, Sir Norman Lockyer on the Recent Solar Eclipse Expedition, 533; Mr. Claydon on Meteorological Photography, 534; Prof. Milne on Seismology, 534; Mr. W. H. Shaw on a Pneumatic Analogue of the Potentiometer, 534; Mr. A. W. Warrington on Hydrometers of Total Immersion, 534; Dr. R. J. Lloyd on the Articulation and Acoustics of the Spirate Fricative Consonants, 534; Colonel Allen Cunningham Report on the Work of the Committee for Calculating Tables of certain Mathematical Functions, 534; Prof. Hele-Shaw on a New Instrument for Drawing the Curves which can be got by Rolling One Circle on another, 534; Prof. Hele-Shaw and Sir George Stokes' Experiments on the Motion of a Viscous Fluid between Two Parallel Plates, 535; Mr. E. T. Whittaker on the Recent History of the Theory of the Functions Used in Analysis, 535; Dr. Johnstone Stoney on the Dynamical Explanation of certain Observed Phenomena of Meteor Streams, 535; Prof. G. J. Stokes on the Imaginary of Logic, 535; Lord Kelvin on the Dynamical Theory of Refraction Dispersion and Anomalous Dispersion, 546

**Section B (Chemistry).**—Opening Address by Prof. F. R. Japp, M.A., LL.D., F.R.S. (President of the Section), Stereochemistry and Vitalism, 452; Sir William Crookes on Monium, 438, 556; Prof. Ramsay and Dr. Travers on the Extraction from Air of the Companions of Argon and on Neon and "Xenon," 556; Prof. Emerson Reynolds on the position of Helium, Argon, Krypton, and Neon in his Diagrammatic Representation of the Relations of the Elements, 556; Prof. F. Clowes on Equivalent Replacement of Metals, 556; Prof. Hodgkinson and Mr. Coote on Alkaline Chlorates and Sulphates of the Heavy Metals, 556; Mr. R. G. Durrant on Green Cobaltic Compounds, 556; Prof. Sydney Young on the Thermal Properties of Gases and Liquids, 556; the Earl of Berkeley on the Methods he has adopted for the more exact Determination of the Densities of Crystals, 556; Dr. W. J. Russell on the Action exerted by certain Metals and other Organic Substances on a Photographic Plate, 556; Mr. C. H. Bothamley on the Action of certain Substances on the Undeveloped Photographic Image, 557; Prof. Percy Frankland on an Additional Photographic Action—that of Bacteria, 557; Dr. J. Gordon Parker on Recent Advances in the Tanning Industry, 557; Mr. Vernon Harcourt on his New 10-Candle Pentane Lamp, 557; Prof. Emerson Reynolds's Experiment illustrating the Effect on the Acetylene Flame of Varying Proportions of Carbon Dioxide in the Gas, 557; Dr. Laurie and Mr. Strange on the Results obtained in Studying the Cooling Curves of Fatty Acids, 557; Messrs. Fenton and Jackson on the Oxidation of Polyhydric Alcohols, 557; Dr. Morrell and Mr. Crofts on the Oxidation of Glucose, 557

**Section C (Geology).**—Opening Address by W. H. Hudleston, M.A., F.R.S., President of the Section, 476; Mr. E. Wethered on the Building of the Clifton Rocks, 558; Mr. T. H. Holland on the Comparative Action of Sub-aerial and Submarine Agents in Rock Decomposition, 558; Prof. O. C. Marsh on the Comparative Value of different kinds of Fossils in determining Geological Age, 558; Prof. J. F. Blake on Aggregate Deposits and their Relation to Zones, 558; Mr. T. Groom on the Age and Geological Structure of the Malvern and Abberley Ranges, 558; Mr. E. Greenly on a Case of Boulder-uplift at Llandegfan, Menai Straits, 558; Mr. A. Somervail on the Age and Origin of the Granite of Dartmoor, 558; Mr. R. Etheridge, Prof. Boyd Dawkins, Mr. W. Whitaker, Sir John Evans, Mr. E. Wethered, and Prof. Louis on the Relation and Extension of the Franco-Belgian Coal-field to that of Kent and Somerset, 558; Dr. Marsden Manson on the Laws of Climatic Evolution, 559; Prof. E. Hull on the Sub-oceanic Physical Features of the North Atlantic, 559; Mr. W. H. Wheeler on the Action of Waves and Tides on the Movement of Material on the Sea-coast, 559

**Section D (Zoology).**—Opening Address by Prof. W. F. R. Weldon, M.A., F.R.S., President of the Section, Natural Selection, 499; Mr. F. Galton on Photographic Records of Pedigree Stock, 584; Mr. W. Garstang on the Races and Migrations of the Mackerel, 584; Mr. H. N. Dickson on the Connection between the Appearance of Mackerel and the Changes of Sea Temperature in Spring and Autumn, 584; Dr. Arthur Willey on the Phylogeny of the Arthro-

pod Amnion, 584; Mr. H. M. Vernon on the Relations between Marine, Animal and Vegetable Life in Aquaria, 585; Prof. W. A. Herdman on the Final Report of the Oyster Committee, 585; Dr. H. Lyster Jameson on a Race of Protectively-Coloured Mice, 585; Prof. Poulton and Miss C. B. Sanders on the Struggle for Existence in certain Common Insects, 585; Prof. Lloyd Morgan on Animal Intelligence, 585; Dr. A. J. Harrison on the so-called Fascination of Snakes, 585; Prof. Julin on the Formation of the Heart, 585; the Pepton Committee Experiments, 585

**Section E (Geography).**—Opening Address by Colonel George Earl Church, President of the Section, 586; Mr. H. N. Dickson on the Salinity and Temperature of the North Atlantic, 586; Dr. K. Natterer on the Oceanographical Results of the Austro-Hungarian Deep-Sea Expeditions in the Eastern Mediterranean, Sea of Marmora, and Red Sea, 586; Dr. J. W. Gregory on the Theory of the Arrangement of Oceans and Continents on the Earth's Surface in the Light of Geological and Physical Observations, 586; Mr. R. D. Oldham on the Great Indian Earthquake of June 12, 1897, 586; Dr. J. Scott Keltie on "Political Geography," 586; Prof. Reclus on his Scheme for a Great Terrestrial Globe, 586; Prof. Patrick Geddes on an Experiment in the Practical Teaching of Geography about to be tried in Edinburgh, 586; Dr. H. R. Mill on the Prospects of Antarctic Research, 587; Mr. C. W. Andrews, a Preliminary Account of Christmas Island in the Indian Ocean, 587

**Section G (Mechanical Science).**—Opening Address by Sir John Wolfe Barry, K.C.B., LL.D., F.R.S., President of the Section; Bristol and Mechanical Science, 506; Mr. Forster Brown on the Economic and Mechanical Features of the Coal Question, 608; State Purchase of Railways as a Means of Reducing Freight Charges, 608; Visit to Barry Docks, 608; Mr. A. Siemens, Mr. H. H. Gibbings and Mr. W. Geipel on the Application of the Electric Motor to the Engineering Workshop, 608; Prof. Silvanus Thompson and Mr. Walker on Electric Traction by Surface Contacts, 608

**Section H (Anthropology).**—Opening Address by E. W. Brabrook, C.B., F.S.A., President of the Section, 527

**Section K (Botany).**—Prof. Klebs on Alternation of Generations in *Thallophyta*, 632; Lloyd Williams on the Reproduction of *Dictyota dichotoma*, 632; Prof. Philips on the Form of the Protoplasmic Body in certain Floridæ, 633; Prof. Errera on the Structure of the Yeast Cell, 633; Harold Wager on the Structure of the Yeast Cell, 633; Prof. Marshall Ward on a New Potato Disease, 633; Mr. Lang on the Discovery of the Prothallus of *Lycopodium clavatum*, 633; Dr. Scott on the Anatomy of Coal-Measure Plants, 633; A. C. Seward on the Malayan Fern *Matonia*, 633; Prof. Errera on the Theoretical Calculation of an Osmotic Optimum, 633; Prof. Reynolds Green on the Enzyme of the Yeast Plant, 633; Mr. Burkill on Changes in the Sex of Willows, 633

British East Africa, Travels in the Coastlands of, and the Islands of Zanzibar and Pemba, W. W. A. FitzGerald, 6

British India, the Flora and Fauna of, 250

British Institute of Preventive Medicine, Annual Meeting of, 206; Transactions of the, 339

British Medical Association, Meeting of the, Dr. F. W. Tunnicliffe, 349

British Pharmaceutical Conference, Presidential Address of Dr. Charles Symes, 398

British Rainfall, Symons's, 1897, G. J. Symons, F.R.S., and H. Sowerby Wallis, 389

Brodie (F. J.), Abnormal Weather of January in 1898, 95

Bronze Implement, Bacteria on an Ancient, William Edward Nicholson, 32; Dr. G. L. Johnson, 52

Bronze Medals, Treatment of the Surface of, Prof. Roberts-Austen, F.R.S., 236

Broom (Dr. R.), *Thylacoleo*, 192

Brough (Bennett H.), Indian Coals at the Imperial Institute, 380

Brown (Prof. Crum), Origin of Phœnician Alphabet Characters, 143; Electrolysis of Ethyl Potassium Diethoxysuccinate, 335

Brown (Forster), on the Economic and Mechanical Features of the Coal Question, 608

Brown (Horace T., F.R.S.), on the Depletion of the Endosperm of *Hordeum vulgare* during Germination, 331

Browne (Sir J. C.), the Sale of Poisons, 577

- Browne (Montague), Rules for Compositors and Readers, 368  
 Browning (P. E.), Detection of Sulphides, Sulphates, Sulphites and Theosulphates in each other's Presence, 634  
 Bruce (Robert), Food Supply: a Practical Handbook for the Use of Colonists and all intending to become Farmers Abroad or at Home, 245  
 Bruni (Giuseppe), the Phenomenon of Equilibrium in Isomorphous Mixtures, 627  
 Bruyn (Prof. L. de), State of Insoluble Amorphous Substances made to form in Gelatine, 360  
 Bryan (Prof. G. H., F.R.S.), Dendritic Patterns caused by Evaporation, 174  
 Buchan (Dr.), Mean Atmospheric Pressure and Temperature of British Islands, 178  
 Buchanan (J. Y., F.R.S.), Nomenclature and Notation in Calorimetry, 30  
 Budgett (Prof. S. P.), on Physical Absorption of Isotonic and Anisotonic Salt Solutions, 484  
 Bugonia-Superstitions, Notes on the—The Occurrence of *Eristalis tenax* in India, Kumagusu Minakata, 101  
 Buisson (H.), Velocity of Electrified Particles during Discharge of Ultra-Violet Light, 336  
 Bulletin of American Mathematical Society, 92, 187, 310, 431  
 Bulletin de l'Académie des Sciences de St. Pétersbourg, 492  
 Bunsen's (Dr. Robert) Life Work, 229  
 Buoys, Illuminated, J. Fintsch, 489  
 Burch (G. J.), Electrical Response of Nerve to a Single Stimulus investigated with Capillary Electrometer, 166; Photographs of the Electrical Response of Nerve to Excitation, 483  
 Burch (Prof. G.), on Temporary Colour-Blindness, 486  
 Burgess (Dr. James), on finding Log Sines and Log Tangents of Small Arcs, 336  
 Burke (J.), Luminosity produced by Striking Sugar, 533  
 Burkill (Mr.), Changes in Sex of Willows, 633  
 Burma, Petroliferous Sands and Mud Volcanoes in, Dr. Fritz Noetling, 20  
 Burstall (Prof. Frederick W.), Experiments on the Working of Gas Engines, 21  
 Butler (C. P.), Simple Interference Method of Calibrating Spectrometer, 62; Simple Method of Reducing Prismatic Spectra, 119  
 Butter and Milk, the Adulteration of, R. H. Wallace, 133  
 Buttons, Obsidian, in Australia, 109  
 Buzzard (Dr.), Influence of Micro-Organisms on Diseases of Nervous System, 350  
 Cahen (Mr.), Results of some Comparisons of the Output and Efficiency of a Secondary Cell (Tudor Type) when charged at constant current and constant electro-motive force respectively, 533  
 Calabro-Messinese Earthquakes, Prof. G. Mercalli, 229  
 "Calaveras Skull," Prof. Whitney's, 17  
 Calculus, an Elementary Course of Infinitesimal, Horace Lamb, F.R.S., 292  
 Calcutta, Annals of the Royal Botanic Gardens, Vol. viii.: the Orchids of the Sikkim Himalaya, Sir George King and R. Pantling, 465  
 Calcutta, the Plague in, Dr. Haffkine's Methods and, 85  
 Calf Lymph, the Bacterial Character of, Mrs. Percy Frankland, 44  
 California University, New Teaching Observatory for the, 553  
 Callandreu (M.), Obituary Notice of Prof. Souillart, 112  
 Calman (W. T.), Rotifers in Lake Bassenthwaite, 271  
 Calorimetry, Nomenclature and Notation in, J. Y. Buchanan, F.R.S., 30  
 Cambridge, International Congress of Zoology at, 390  
 Cambridge Observatory, Annual Report of the, 553  
 Cambridge Philosophical Society, 95, 142  
 Camera Lucida, a Modified, Frederick Ives, 311  
 Campion (Henry), the Secret of the Poles, 495  
 Canalisation Electricques, R. V. Picou, 519  
 Cancani (Dr. A.), Barisal Guns, 130  
 Cancani's (Dr.) Horizontal Seismographical Pendulum at Rocca di Papa, 158  
 Cannon (Miss), Stars having Peculiar Spectra, 258  
 Cape Colony, Trout Acclimatisation in, J. D. F. Gilchrist, 628; Forestry in, D. E. Hutchins, 605  
 Cape of Good Hope Bacteriological Institute, Report of, 278  
 Cape Observatory Report, the, 584  
 Carnot (A.), Silicon and Chromium in Steels, 47  
 Carnot (M.), the Culture of Koch's Bacillus, 354  
 Carus-Wilson (C. A.), Electro Dynamics: the Direct Current Motor, 366  
 Cast Metal Work from Benin, 224  
 Castets (J. S. J.), Protective Mimicry, 223.  
 Catskills, the Deer Park in the, 487  
 Caucasian Branch of Russian Geographical Society, 539  
 Cayley (Arthur, F.R.S.), the Collected Mathematical Papers of, 50  
 Cazeneuve (P.), Preparation of Mixed Carbonic Ethers, 240  
 Cell Problems, the Present Position of some, Prof. J. B. Farmer, 63  
 Centipede, Gigantic, in Zoological Gardens, 326  
 Centipede-Whale, the, Kumagusu Minakata, 570  
 Centnerszwer (Herr), Catalytic Influence of Gases on Oxidation of Phosphorus, 279  
*Cephalodiscus dodecalophus*, Anatomy of, Dr A. T. Masterman, 190  
 Ceraski (Madame), a New Variable Star, 424  
 Ceremonial Dances of the American Indians, 125  
 Cerulli (Prof. V.), Mars in 1896-7, 304  
 Ceti, the Variable, Herr W. Stratonoff, 330; Dr Nijland, 330  
 Ceylon, the Abnormal Rainfall of December 1897 in, H. Parker, 132  
 Ceylon, Report of Royal Botanic Gardens, J. C. Willis, 329  
 Chance or Vitalism?, Prof. Karl Pearson, F.R.S., 495; Prof. Geo. Fras. Fitzgerald, F.R.S., 545; Clement O. Bartrum, 545  
 Chaney (H. J.), Our Weights and Measures: a Practical Treatise on the Standard Weights and Measures in use in the British Empire, with some Account of the Metric System, 268  
 Chank-Shell, the Value of a Right-handed, Edgar Thurston, 627  
 Charpentier (Aug.), Visibility of Blind Spot in Retina, 168  
 Charrin (M.), Thermogenesis in Tetanus, 336  
 Chatterton (Prof.), the Use of Aluminium for Cooking Utensils in India, 488  
 Chattock (Prof.), on the Thermal Conductivity of Water, 532; Experiments to Determine the Velocity of Electricity in the Electric Wind, 533  
 Chavastelon (R.), New Combination of Acetylene with Cuprous Oxychloride, 264  
 Cheetham (T. A.), Elementary Chemistry, Practical and Theoretical, 29  
 Chemistry: *Explosifs nitrés*, J. Daniel, 4; Notes on Observations, Sydney Lupton, 7; Carbohydrates of Barley-Straw, C. F. Cross, E. J. Bevan, and C. Smith, 23; Isomeric Bornylamines, M. O. Forster, 23; Derivatives of Benzophenone, F. E. Matthews, 23; Drying of Ammonia and Hydrogen Chloride, H. B. Baker, 23; Liquid Hydrogen, 55; Dr. W. Hampson, 77, 174, 246, 292; Prof. J. Dewar, F.R.S., 125, 199, 270, 319; Boiling Point and Density of Liquid Hydrogen, J. Dewar, 189; Liquefaction of Hydrogen and Helium, J. Dewar, 142; Action of Hydrogen Peroxide on Carbohydrates in Presence of Iron, C. F. Cross, E. J. Bevan, and C. Smith, 94; Action of Hydrogen Bromide on Carbohydrates, H. J. H. Fenton and Mildred Gostling, 189; Preparation of Standard Acid Solution by Direct Absorption of Hydrogen Chloride, G. T. Moody, 238; Action of Hydrogen on Silver Sulphide and *vice versa*, H. Pelabon, 240; Behaviour of Calcium heated in Hydrogen, Henri Moissan, 257; Reaction between Hydrogen and Nitric Acid, M. Berthelot, 264; Action of Hydrogen on Potassium Paratungstate, L. A. Hallopeau, 264; Action of Pure Hydrogen Phosphide on Cupric Sulphate, E. Rubenovitch, 359; Properties of Methylene Di-iodide, H. G. Madan, 23; Condensation of Chloral Hydrate with Orcinol, J. T. Hewitt and F. G. Pope, 23; Hexamethylene and its Derivatives, E. C. Fortey, 23; Yellow Colouring Matter of Leaves of *Arctostaphylos uva ursi*, A. G. Perkin, 23; Synthesis of Cis- and Trans-Caronic Acids, W. H. Perkin, jun., and J. F. Thorpe, 23; Preparation of Solid Ammonium Cyanate, J. Walker and J. K. Wood, 23; Simple Experimental Illustrations of Law of Multiples, A. W. Jones, 23; Lauronic Acid, R. W. Collinson and W. H. Perkin, jun., 23; Action of Bromoacetyl on Sodium Derivative of Ethylic Malonate, W. H. Perkin, jun., and C. H. G. Sprankling, 23; Separation of Optical Isomerides, F. S. Kipping and W. J. Pope, 23; Industrial Treatment of Emerald in Electric Furnace, P. Lebeau, 23; the Quinoneoximes, A. Valeur, 23; Products of Hydrolysis of Ouabaine, M. Arnaud, 23; Ouabaic Acid, M. Arnaud, 47; Chlorinating Action of Ferric Chloride in Aro-



- matic Series, V. Thomas, 24; Saccharification of Starch by Malt, H. Pottévin, 24; Nitrogenous Nutrition of Phanerogamous Plants, L. Lutz, 24; Elementary Chemistry, Practical and Theoretical, T. A. Cheetham, 29; Silicon and Chromium in Steels, MM. A. Carnot and Goutal, 47; Iodide of Beryllium, P. Lebeau, 47; New Reaction of Tertiary Alcohols and their Ethers, G. Denigès, 47; Action of Sulphuric Acid of 35-40 per cent. on Acid Aliphatic and Neutral Nitramines and their Isomers, Prof. Franchimont and Dr. Umbgrove, 47; Method of Detecting and Estimating Small Amounts of Carbon Monoxide in Air in Presence of Traces of Hydrocarbons, A. Gautier, 71; Limit of Inflammability of Carbon Monoxide, MM. H. Le Chatelier and Boudouard, 71; a Boro-carbide of Beryllium, P. Lebeau, 71; some Halogen Salts of Lead, V. Thomas, 71; Text-book of Physiology, Dr. T. H. Milroy, 73; Redetermination of Atomic Weights of Nickel and Cobalt, Prof. T. W. Richards, 87; Wiedemann's Annalen, 93, 117, 187, 335, 491; Chemical Society, 94, 142, 189, 238; Affinity-Constants of Dihydroxymaleic, Dihydroxyfumaric, Dihydroxytartaric and Tartaric Acids, S. Skinner, 94; Resolution of Tetrahydropapaverine into its Optically Active Components, W. J. Pope and S. J. Peachey, 94; Molecular Weights of Permanganates, Perchlorates and Periodates in Solution, J. M. Crofts, 94; Causes of Uncertainty in Estimating Carbonic Acid and Water Vapour, A. Gautier, 95; Molecular Weights of easily Liquefiable Gases, Daniel Berthelot, 96; Anhydrous Beryllium Fluoride and Oxyfluoride of Beryllium, P. Lebeau, 96; Synthetic Preparation of Potassium Carbonyl Ferrocyanide, J. A. Muller, 96; the Arrangement of Atoms in Space, J. H. Van't Hoff, 100; the Industrial Applications of Electro-Chemistry, Dr. Thomas Ewan, 112; Estimation of Manganese separated as Carbonate, Martha Austin, 117; Osmosis of Liquids through Vulcanised Rubber, G. Flusin, 120; Action of Aluminium Chloride and Chlorine on Anhydrous Chloral, A. Mouneyrat, 120; Carbon Monoxide in Blood, Maurice Nicloux, 120; the Rudiments of Physics and Chemistry, 123; on a New Constituent of Atmospheric Air, Prof. W. Ramsay, F.R.S., and Morris W. Travers, 127; Obituary Notice of Lyon Playfair, 128; Action of Formaldehyde on Naphthalene Amines, I. G. T. Morgan, 142; Oleic Acid and its Derivatives, I. F. G. Edmed, 142; Stereoisomeric Derivatives of Camphor, T. M. Lowry, 142; Solubility of Camphor, C. Istrati and A. Zaharia, 635; the Di-Alkylamidoanthraquinones, A. Haller and A. Guyot, 143; Halogen Derivatives of Ethyl-Phenyl-Ketone, A. Collet, 143; Production of Carbon Monoxide in Organism, Maurice Nicloux, 143; Cinnamic Methyl Ether in *Alpinia Malaccensis*, Dr. P. van Romburgh, 143; Recent Experiments on certain of the Chemical Elements in relation to Heat, Prof. W. A. Tilden, F.R.S., 160; the Carbonic Acid of the Air, MM. Albert Levy and H. Henriet, 168; Companions of Argon, Prof. William Ramsay, F.R.S., and Morris W. Travers, 182; Position of Helium, Argon, and Krypton in Scheme of Elements, Sir William Crookes, F.R.S., 383; Helium in the Atmosphere, E. C. C. Baly, Prof. William Ramsay, F.R.S., and Dr. Morris W. Travers, 545; Sir William Crookes, 570; Atomic Susceptibilities of Water and Aqueous Solutions, H. du Bois, 187; Atomic Weight of Nitrogen, M. Vêzes, 191; Atomic Weight of Tellurium, R. Metzner, 191; a New Carbide of Tungsten, Percy Williams, 191; Production of Tungsten Blue, Albert Granger, 287; a Silicide of Tungsten, E. Vigouroux, 492; a Double Carbide of Iron and Tungsten, Percy Williams, 516; a Double Carbide of Iron and Chromium and Iron and Tungsten, Percy Williams, 588; New Iodide of Tungsten, Ed. Defacqz, 612; Crystallised Tungsten Dioxide and Tungsto-Lithium Tungstate, L. A. Hallopeau, 612; New Method of Separating Geraniol and Citronellol, J. Flatau and H. Labbé, 191; Liquid Air at One Operation, Lord Rayleigh, F.R.S., 199; the Spectrum of Metargon, Prof. Arthur Schuster, F.R.S., 199, 269; the Preparation of Crystallised Calcium, M. Moissan, 209; Boiling Point of Liquid Ozone, L. Troost, 216; Chlorination of Acetylene, A. Mouneyrat, 216; Dr. Robert Bunsen's Life Work, 229; a New Isomeride of Malic Acid, J. H. Abernethy, 232; Halogen Derivatives of Fenchene, J. A. Gardner and G. B. Cockburn, 238; Oxidation of Fenchene, J. A. Gardner and G. B. Cockburn, 238; Isodynamic Forms of Nitrocamphor, T. M. Lowry, 238; Cannabinol, T. B. Wood, W. T. N. Spivey and T. H. Easterfield, 238; Action of Light on Acetylene, W. A. Bone and J. Wilson, 238; Solubility of Isomeric Substances, J. Walker and J. K. Wood, 238; Azobenzene Derivative of Chrysin, A. G. Perkin, 238; Constituents of "Waras," A. G. Perkin, 238; Oxidation of Charcoal by Nitric Acid, G. Dickson and T. H. Easterfield, 238; Combination of Fatty Ketones with Mercuric Sulphate, G. Denigès, 240; Preparation of Mixed Carbonic Ethers, P. Cazeneuve and Albert Morel, 240; Acids of Essential Oils of Geranium, MM. Flatau and Labbé, 240; Practical Organic Chemistry, George George, 245; Chemical Works in Germany, 256; the Decomposition of Water by Chromous Salts, M. Berthelot, 264; Blue Glass with Chromium Base, André Duboin, 264; Use of Copper Selenate in making Selenic Acid, R. Metzner, 264; Volumetric Analysis in Alkaline Solution, André Job, 264; New Combination of Acetylene with Cuprous Oxide, R. Chavastelon, 264; Solfatara Gases, Prof. R. Nasini, F. Anderlini and R. Salvadori, 269; Catalytic Influence of Gases on Oxidation of Phosphorus, Herr Centnersawer, 279; Sodium Perborate, M. Tanatar, 279; Decomposition of Nitric Acid by Heat, D. Berthelot, 287; Compressibility of Air as Gaseous Mixture, E. H. Amagat, 287; Mode of Oxidation of Cobalt Salts on Alkaline Solutions, André Job, 287; Compounds of Rhodium, A. Jolly and E. Leidié, 287; Brominating Action of Aluminium Bromide in Fatty Series, A. Mouneyrat, 287; Ovalbuminic Acid, J. M. Albahary, 288; Action of Sorbose Bacteria on Xylose, Gabriel Bertrand, 288; Anhydrous-Crystallised Magnesium Sulphide, A. Mourlot, 312; Freezing Point of Aqueous Solutions of Sodium Mellicate, W. W. Taylor, 335; Determination of Arsenic in Antimony, O. Ducru, 330; Action of Sodammonium on Arsenic, C. Hugot, 635; Composition of Phosphorescent Sulphides of Strontium, J. R. Mourelle, 336, 432; Crystallisation of Anhydrous Sulphides of Calcium and Strontium, M. Mourlot, 516; Estimation of Methyl Alcohol in Ethyl Alcohol, A. Trillat, 336; Millet, M. Ballard, 336; Text-Book of Physical Chemistry, Clarence L. Speyers, 344; Synthesis of Albuminous Substances, Dr. Leo Lilienfeld, 351; Action of Bromine on Normal Propyl Bromide in presence of Anhydrous Aluminium Bromide, A. Mouneyrat, 359; Hydrolysis of Ethane-Dipyrrocatechin, Ch. Moureu, 359; Babbitt's Antifriction Metal, Prof. H. Behrens and H. Baucke, 359; State of Insoluble Amorphous Substances made to form in Gelatine, Prof. L. de Bruyn, 360; Composition and Volumes of co-existing Phases of Mixtures of Methyl Chloride and Carbonic Acid, C. M. A. Hartman, 360; Chemical Analysis, Qualitative and Quantitative, W. Briggs and K. W. Stewart, 366; Artificial Food, Dr. Sidney Williamson, 368; Death of J. A. R. Newlands, 372; Obituary Notice of, 395; the Relations between the Energy of Light and Chemical Energy, D. Berthelot, 375; Monopyrocatechin Glyoxal, Gaston Bonnier, 384; Action of Oxygen on Yeast, Jean Effront, 384; Study of Phosphoric Acid dissolved by the Water of the Soil, Th. Schloesing, 384; Chemical Manufacture of Perfumes, 398; Catalytic Action of Organic Substances on Oxidation of Sodium Sulphate, S. L. Bigelow, 400; the Oxides of Sodium, M. de Forcrand, 432; Atmospheric Carbon Dioxide, Albert Levy and H. Henriet, 408; the Production and Uses of Ozone, 416; the Ammoniacal Chlorides of Lithium, J. Bonnefoi, 432; the Estimation of Tannin, Leo Vignon, 432; Stereochemistry and Vitalism, Prof. Japp, F.R.S., 452, 616; Prof. Karl Pearson, F.R.S., 495; Prof. F. J. Allen, 520; Prof. G. F. Fitzgerald, F.R.S., 545; C. O. Bartrum, 545; Herbert Spencer, 592; Prof. Giorgio Errera, 616; Essential Oils of Eucalyptus Genus, R. T. Baker and H. G. Smith, 464; the Carbonic Anhydride of the Atmosphere, Dr. E. Letts and R. F. Blake, 464; Toxicity of Copper Salts for Wheat, Henri Coupin, 492; Death of Dr. H. Trimble, 513; Commercial Extraction of Thorium, MM. Wyronhoff and A. Verneuil, 516; Dr. T. S. Hunt, F.R.S., as a Chemist, James Douglas, 551; Action of Lime and Chalk on Humic Materials, G. André, 564; Influence of Chemical Composition of Glass on its Coefficient of Expansion, A. Granger, 581; Colours of Natural Waters, Prof. W. Spring, 580; Double Salicylates of Metals and Antipyrin, C. Schuyten, 583; Analysis of Commercial Calcium Carbide, Henri Moissan, 588; a Chemical Laboratory Course, A. F. Hogg, 592; Calcium Nitride, H. Moissan, 612; Combinations of Lithium Chloride with Methylamine, J. Bonnefoi, 612; Diodo-quinoline, C. Istrati, 612; Phenyl-Phosphoric and Phenylene Phosphoric Acids, P. Genvresse, 612; Volumetric Estimation of Acetaldehyde, X. Rocques,

- 612; Surlusion of Metals and Alloys, Prof. W. C. Roberts Austen, F.R.S., 619; Detection of Sulphides, Sulphates, Sulphites and Thiosulphates in each other's Presence, P. E. Browning and E. Howe, 634; an Old Alloy, D. Berthelot, 635; New Hydrated Chromium Oxide, H. G. Baugé, 635; Researches on Double Iodides and Borates, H. Allaire, 635
- Child (C. D.), Potential Gradients at Electrodes discharged by X-Rays, 187
- Chili, Earthquakes in, 299
- China: Geographical Notes on Central and Southern, 133
- Chinese Antiquities at Shashih, 133
- Chinese Herbal Prescription, Ingredients of, J. B. Davy, 255
- Cheriton (W. W.), a Simplified Euclid, 150
- Chree (Dr. C., F.R.S.), Kew Experiments on Aneroid Barometers, 215; Recent Work in Thermometry, 304; Magnetic Storm, 468
- Chromatolysis in Plants, Dr. B. Longo, 329
- Chromosphere, Photograph of the, Prof. Naegamvala, 526
- Chrystal (G.), Introduction to Algebra, for the Use of Secondary Schools and Technical Colleges, 340
- Church (Colonel George Earl), Opening Address in Section E of the British Association, 586
- Churchill (W. A.), the Supply of Amazonian Rubber, 603
- Chyzer (Cornelio), *Aranee hungarica*, 365
- Cinchona Cultivation in India, 423
- Cirrhosis, Hepatic, Clinical Varieties of, Dr. Alex. James, 349
- City Banquet to the Medical Profession, 37
- City Pavements, Mirage on, R. W. Wood, 596
- Clark (J. Edmund), Luminous Clouds or Aurora, 546
- Clayden (Mr.), Meteorological Photography, 534
- Clayton (H. H.), Diurnal Changes in Temperature and Humidity at different Heights in Free Air, 59; Record Broken for High Kite Flight, 513
- Clemow (Dr. F. G.), Rats and the Plague, 551
- Clemons, Iridescent, E. Armitage, 390
- Clouds, Luminous, Arthur P. Jenkin, 521
- Clouds, Luminous, or Aurora, J. Edmund Clark, 546
- Clowes (Prof. F.), on Equivalent Replacement of Metals, 556
- Coal Question, on the Economic and Mechanical Features of the, Forster Brown, 608
- Coals at the Imperial Institute, Indian, Bennett H. Brough, 380
- Cocaine, the Injection of, as a Remedy for Stings, 497
- Coccus, a New, *Echinospira ventricosa*, L. Leger, 516
- Cockburn (G. B.), Halogen Derivatives of Fenchene, 238; Oxidation of Fenchene, 238
- Cockerell (Prof. T. D. A.), a Case of Inherited Instinct, 546
- Coffee Cultivation in India, 423
- Cohen (E.), the Weston Standard Cell, 335
- Cohen (Prof. Ferdinand), Death of, 206; Obituary Notice of, Prof. J. B. Farmer, 275
- Colenso (Rev. W.), a Maori-English Lexicon, 364
- Coles (Alfred C.), the Blood: how to Examine and Diagnose its Diseases, 269
- Colin (E.), Destruction of the French Observatory in Madagascar, 259
- Collins (J. R.), Blurring Aberration in the Telescope, 88, 280
- Collinson (R. W.), Lauronic Acid, 23
- Colloids, the Compressibility of, C. Barus, 634
- Colnaghi (Sir D.), Ten Pound Island (Massachusetts) Fish Hatchery, 489
- Coloration, Assimilative, W. L. Distant, 525
- Coloration of Insects, Observations on the, Brunner von Wattenwyl, 193
- Colour Bands, Flow of Water shown by, Prof. Osborne Reynolds, F.R.S., 467; Prof. H. S. Hele-Shaw, 467
- Colour Photography, Krömsköp, Frederick Ives, 124
- Colours of Natural Waters, Prof. W. Spring, 580
- Colours, Warning, Mimicry and, Frank Finn, 279
- Comets: Comet Perrine (March 19), 19, 42, 60; Dr. Berberich, 400; Comet Perrine (June 14), 232, 280; Tempel's Comet, (1867 II.), M. Gautier, 19; Comet Tempel (1866?), Herr Pechuele, 490; Comets Tempel (1866) and Perrine-Chofardet, 515; Encke's Comet, 160; the Movement of Encke's Comet, Prof. Reginald A. Fessenden, 520; Comets now Visible, 181, 210; Cometary News, 258; Wolf's Comet, 330, 356, 375; Periodic Comets, M. Schulhof, 526; Comet Brooks, 630
- Commission Bill, the University of London, 176
- Companions of Argon, Prof. William Ramsay, F.R.S., and Morris W. Travers, 182
- Compositors and Readers, Rules for, Montague Browne, 368
- Compressibility of Colloids, the, C. Barus, 634
- Conference on the International Catalogue of Scientific Literature, 578
- Conference, International, on Scientific Literature, Report of, 623
- Congress at Dieppe, International Sea Fisheries, 461, 511
- Congress of Sanitary Institute, 522
- Conics, Elementary, Dr. W. H. Besant, 318
- Conics, Examples in Analytical, for Beginners, W. M. Baker, 318
- Constant of Aberration and Stellar Magnitudes, Prof. Doberck, 258
- Convection Currents: the supposed Photographs of Currents from Human Body, Dr. A. Guébhard, 207
- Conway (Sir W. M.), Ascent of Yllimani, 513
- Cook (Prof. A. J.), the Nature and Habits of Pliny's Solpuga, 247
- Cook (Dr. E. H.), on the Action of Electricity on Plants, 533
- Cooke (W. E.), Severe Storm off N.W. Australia, 178
- Cooled Metal, Transference of Heat in, Henry Bourget, 200, 521; Albert T. Bartlett, 411; John Stone Stone, 596
- Coote (Mr.), on Alkaline Chlorates and Sulphates of the Heavy Metals, 556
- Copeland (Prof.), the Total Solar Eclipse of January 21, 1898, 311
- Corals, the Stramberg, Maria M. Ogilvie, Dr. J. W. Gregory, 282
- Corals, the Building of Atolls, Stanley Gardiner, 425
- Corbino (O. M.), New Action of Light traversing Metallic Vapours in Magnetic Field, 635
- Cornelius (H.), Psychologie als Erfahrungswissenschaft, 316
- Cornish (Vaughan), Sea-Beaches and Sandbanks, 42
- Corundum in Ontario, 236
- Cos (F.), Meteorological Observations at Madrid, 1860-94, 230
- Costa (A.), Reciprocal Action of Animal Toxins, 303
- Coupin (H.), Toxicity of Copper Salts for Wheat, 492
- Couriot (H.), Mixture of Marsh Gas and Air not Exploded by Glowing Filaments of Incandescent Lamp, 635
- Courmont (P.), Experiments with Anti-streptococcal Serum, 278; Clinical Value of Agglutination of Koch's Bacillus by Human Serum, 540
- Cox (S. Herbert), Prospecting for Minerals, 7
- Crab in Mythology, the, Prof. D'Arcy Thompson, 143
- Craniology: Study of Hawaiian Skulls, Dr. Harrison Allen, 230
- Crannog on the Clyde, Discovery of a, 488; W. A. Donnelly, 488
- Crannoges in Estuaries, W. F. Sinclair, 521; R. J. Ussher, 571
- Crawford (Robert), South American Sketches, 198
- Crawshay (Rosemary), Distant Thunderstorms affecting Flowers, 390
- Creation, the Process of, Discovered, James Dunbar, 8
- Creation Records Discovered in Egypt, G. St. Clair, 315
- Chore (Prof. A. C.), High Speed Telegraph Transmission by Means of Alternators, 211
- Crew (Prof. Henry), Latitude Variation in a Rigid Earth, 232
- Crofts (J. H.), Molecular Weights of Permanganates, Perchlorates, and Periodates in Solution, 94
- Crofts (Mr.), on the Oxidation of Glucose, 557
- Cromer, Iridescent Surf at, Constance F. Gordon Cumming, 174
- Cromlachs near Dublin, Astronomical Destination of, Prof. J. P. O'Reilly, 61
- Crookes (Sir William, F.R.S.), Position of Helium, Argon and Krypton in Scheme of Elements, 383; Helium in the Atmosphere, 570; Inaugural Address at the Meeting of the British Association at Bristol, 438; Monium, 556
- Crookes' Tube, Circulation of Residual Gaseous Matter in, A. A. C. Swinton, 119
- Cross (C. F.), Action of Hydrogen Peroxide on Carbohydrates in Presence of Iron, 94; Carbohydrates of Barley-Straw, 23
- Cross (Whitman), Geology of the Denver Basin in Colorado, 82
- Crova (A.), an Absolute Actinometer, 95
- Crustacea: Plankton Studies on Lake Mendota, Dr. E. A. Birge, 259; Capture of Curious Crustaceans, E. L. J. Ridsdale, 597
- Crystal Palace, Photography at the, 14
- Crystallography: a Compensated Interference Dilatometer, A. E. Tutton, 118; a New Dilatometer, Mr. Tutton, 311; the

- Physical Properties of Crystals, Dr. Woldemar Voigt, W. H. and G. Chisholm Young, 99
- Cuba, the Climate of, Dr. Phillips, 256
- Cuckoo, a Late, Mrs. E. Hubbard, 487
- Cumming (Constance F. Gordon), Iridescent Surf at Cromer, 174
- Cummins (Surg.-Captain), Food of the Uropoda, 189; Botany of Ashanti, 208
- Cuneiform Inscriptions of Western Asia, the, L. W. King, 341
- Cunningham (Colonel Allen), Report on the Work of the Committee for Calculating Tables of certain Mathematical Functions, 534
- Cunningham (J. T.), Organic Variations and their Interpretation, 593
- Curie (P.), a New Radio-Active Substance in Pitchblende, 312
- Curie (S.), a New Radio-Active Substance in Pitchblende, 312
- Curious Phenomenon, N. W. Thomas, 294
- Cyclists and Dust Bacteria, 254
- Cycloidal Curves and Envelopes, Instruments for Describing, Prof. Hele-Shaw, 61
- Cyclones, Navigation and, A. Fieron, 197
- Cyclones, Variation of Air Temperature in, Rev. M. Dechevrens, 301
- Cytology: the Present Position of some Cell Problems, Prof. J. B. Farmer, 63
- Czernik (M.), Mineral Hail in Russian Poland, 352
- Daisy, the Making of a, Eleanor Hughes-Gibb, 198
- Dale (Jonathan), Angling Days and an Angler's Books, 292
- Dalton's Law, Mr. W. N. Shaw on, 532
- Dammann (Dr. C.), the Wupper, 109
- Dances, Ceremonial, of the American Indians, 125
- Daniel (J.), *Explosifs Nitrés*, 4
- Dante's Ten Heavens, Edmond G. Gardner, N. Perini, 362
- Darwin (Francis, F.R.S.), Observations on Stomata, 212; Text-Book of Floral Biology, Dr. Paul Knuth, 434; the Knight-Darwin Law, 630
- Dassonville (M.), a New Trichophyton Production of Herpes in Horse, 359
- Davy (J. B.), Ingredients of Chinese Herbal Prescription, 255
- Dawkins (Prof. Boyd), on the Relation and Extension of the Franco-Belgian Coalfield to that of Kent and Somerset, 558
- Dawson (C.), Natural Gas in East Sussex, 189
- Dawson (W. Bell), Character and Progress of the Tides in the Gulf and River St. Lawrence as ascertained by Simultaneous Observations with Self-Registering Tide-Gauges, 260
- Deafness: Dr. H. W. Meyer and Adenoid Growths, 625
- Deas (Lizzie), Flower Favourites, their Legends, Symbolism, and Significance, 8
- Death, Röntgen Rays as a Means of Certifying Death, 59
- Death, the Time of Day of, Signor Raseri, 523
- Death among Lower Organisms, Signor A. Andres, 628
- Dechevrens (Rev. M.), Variations of Air Temperature in Cyclones, 301
- Décombe (L.), Constitution of Explosive Spark in Dielectric Liquid, 23
- Deep-Sea Expedition in the Steamship *Valdivia*, German, 346
- Deer Park in the Catskills, the, 487
- Defacqz (Ed.), New Iodide of Tungsten, 612
- Déherain (P. P.), Method of Reducing Losses of Ammonia in Manufacture of Farm Manure, 71
- Delages (Prof. Yves), *Traité de Zoologie Concrète*, 25; Position of Sponges in Animal Kingdom, 425
- Delezenne (Prof.), Is the Congestion of the Limbs and Skin Produced in Asphyxia due to the Active Dilatation of the Blood Vessels of those parts, or Mechanical Dilatation by the Blood driven out of the Visceral Blood Vessels?, 486
- Demontzey (M.), Death of, 16
- Demoor (Dr. J.), on the Changes in the Form of the Neurons of the Cortex Cerebri under Various Conditions of Rest and Excitation, 481
- Dendritic Patterns caused by Evaporation, Prof. G. H. Bryan, F.R.S., 174; Catherine A. Raisin, 224
- Dendy (Prof. A.), the Development of the Tuatara Lizard, 609
- Deniges (G.), New Reaction of Tertiary Alcohols and their Isomers, 47; Combination of Fatty Ketones with Mercurial Sulphate, 240
- Denning (W. F.), the Red Spot on Jupiter and its suspected Identity with Previous Markings, 331; the Recent Perseid Meteoric Shower, 371; Minor Meteoric Radiants, 424; Large Meteors in 1897-1898, 583
- Density, New Determination of the Earth's, Dr. C. Braun, 160
- Denver Basin in Colorado, Geology of the, S. F. Emmons, Whitman Cross, and G. H. Eldridge, 82
- Denys (Prof.), Experiments towards Distinguishing Distinct Species among the Leucocytes of Mammals, 486
- Deruyts (F.), Properties of Gauche Curves, 604
- Deslandres (H.), the Eclipsed and Un-Eclipsed Sun, 258; New Observations in Zeeman Phenomenon, 264; Motion of Stars in the Line of Sight, 490; an Aurora Borealis, 516
- Destruction of the French Observatory in Madagascar, E. Colin, 259
- Detmer (Dr. W.), Practical Plant Physiology, 592
- Devaux (H.), Lenticles, 96
- Devine (Mlle.), on the Results of Further Investigation of the Respiration of the Heart of the Tortoise, 481
- Devonshire (the Duke of), on University Extension, 260; Bill relating to Secondary Education, 324
- Dewar (Prof. J., F.R.S.), Liquid Hydrogen, 125, 199, 270, 319; Boiling Point and Density of Liquid Hydrogen, 189; Liquefaction of Hydrogen and Helium, 142; Metargon, 319
- Dex (M.), Proposed Balloon-Exploration of Africa, 399
- Diary, Notes from a, 1873-1881, Right Hon. Sir Mountstuart E. Grant Duff, 198
- Dibos (M.), Proposed Balloon Exploration of Africa, 399
- Dickson (G.), Oxidation of Charcoal by Nitric Acid, 238
- Dickson (H. N.), on the Connection between the Appearance of Mackerel and the Changes of Sea Temperature in Spring and Autumn, 584; on the Salinity and Temperature of the North Atlantic, 586
- Dickson (Dr. L. E.), Structure of Hypoabedian Groups, 431
- Dictionary of Bird Notes, a, C. L. Hett, 366
- Dierer (Dr. Karl), Paleontology of Himalayas, 257
- Dieppe, International Sea Fisheries Congress at, 511
- Diesselhorst (H.), Conductivities of Electrolytes, 93
- Differential Equations, Partial, E. Goursat, 266
- Digestion, Effect of Mixed Diet on Salivary, Dr. W. A. Robertson, 311
- Digraphs, the Use of, F. A. Bather, 412
- Dilatometer, a Compensated Interference, A. E. Tutton, 118
- Dilatometer, a New, Mr. Tutton, 311
- Dina (Signor A.), Simple Method of Converting Alternating into Direct Current, 132
- Diseases of the Lungs, the, James Kingston Fowler and Rickman J. Godlee, 291
- Disinfecting Ship, a; the U.S. Steamship *Protector*, 488
- Distant (W. L.), Assimilative Coloration, 525
- Distillery Pollution, C. A. Stevenson, 319
- Distribution of Prepotency, the, Francis Galton, F.R.S., 246
- Dobbie's Horticultural Handbooks, 318
- Doberck (Prof.), Constant of Aberration and Stellar Magnitudes, 258
- Dock Capacity, Novel Plan of increasing, 582
- Dogmatism on the Moon and the Weather, 368
- Domestic Science, Lessons in, Ethel R. Lush, 173
- Domestic Science Readers, Vincent T. Murché, 8
- Donaldson (Mr.), Results of some Comparisons of the Output and Efficiency of a Secondary Cell (Tudor Type) when charged at constant current and constant electro-motive force respectively, 533
- Donegal, Flora of County, H. C. Hart, 615
- Donkin (Bryan), the Heat Efficiency of Steam Boilers, Land, Marine, and Locomotive, 543
- Donnan (Dr.), the Theory of the Hall Effect in a Binary Electrolyte, 215
- Donnelly (Sir J. F. D.), Wasp and Bee Stings, 435
- Donnelly (W. A.), Discovery of a Crannog on the Clyde, 488
- Douglas (James), Dr. T. S. Hunt, F.R.S., as a Chemist, 551
- Douglass (A. E.), the First Satellite of Jupiter, 210
- Douglas (Sir J. N., F.R.S.), Death of, 177
- Double and Multiple Southern Stars, Dr. T. J. J. See, 134
- Dove (Stuart), the Blue-Tongued Tasmanian Lizard as a Snake-Destroyer, 422
- Dragon of the Prime, a, 418
- Drawing, Machine, Thomas Jones and T. Gilbert Jones, 543
- Drawing, Mechanical, a Course in, John S. Reid, 8
- Dream, a Holiday, Potential Matter, Prof. Arthur Schuster, F.R.S., 367, 618
- Dreyer (Dr. J. L. E.), (*Œuvres complètes de Christiaan Huygens*, 361
- Drieberg (C.), Heavy Rainfalls, 78



Drygalski (Erich von), Grönland-Expedition der Gesellschaft für Erdkunde zu Berlin, 1891-93, 413  
 Dublin, Cromlechs near, Astronomical Destination of, Prof. J. P. O'Reilly, 61  
 Dublin Royal Society, 47, 191, 464  
 Dubois (André), Blue Glass with Chromium Base, 264  
 Dubois (E.), the Brain of *Pithecanthropus erectus*, 427  
 Dubois (M.), Electrical Resistance of Human Body, 216  
 Dubois (P.), Function of Condenser in Induction Apparatus, 187  
 Duckworth (Sir Dyce), the Harveian Oration, 602  
 Ducretet (E.), Receiver for Hertzian Telegraphy without Wires, 47  
 Ducru (O.), Determination of Arsenic in Antimony, 336  
 Duerden (J. E.), the Fisheries of Jamaica, 158  
 Dufet (H.), Recueil de Données Numériques Optique, 344  
 Duff (Right Hon. Sir Mountstuart E. Grant), Notes from a Diary, 198  
 Dumont (G.), Automobiles sur Rails, 495  
 Dunbar (James), the Process of Creation Discovered, or the Self-evolution of the Earth and Universe by Natural Causes, 8  
 Durchmusterung, the Northern, 42  
 Durham (Mr.), the Tsetse Disease in Mammals, 426  
 Durrant (R. G.), on Green Cobaltic Compounds, 556  
 Durward (Arthur), Temperature Coefficients of certain Seasoned Hard Steel Magnets, 92  
 Dust-Bacteria and Cyclists, 254  
 Dynamics : Theoretical Mechanics : an Introductory Treatise on the Principles of Dynamics with Applications and Numerous Examples, A. E. H. Love, F.R.S., Prof. A. G. Greenhill, F.R.S., 169; the Mathematical Theory of the Top, Prof. Felix Klein, 244; Electrodynamics : the Direct Current Motor, C. A. Carus-Wilson, 366; Lord Kelvin on the Dynamical Theory of Refraction; Dispersion and Anomalous Dispersion, 546; the Dynamics of Impact, D. de Francesco, 582  
 Earth, Rigid, Latitude Variation in a, Prof. Henry Crew, 232  
 Earth and Mars, the Planet between, Herr G. Witt, 526  
 Earth's Density, New Determination, Dr. C. Braun, 160  
 Earth's Polar Axis, the Movement of the, 1890-1897's, Prof. Albrecht, 42  
 Earthquakes : Rainfall and Earthquake Periods, Prof. J. P. O'Reilly, 103; Earthquake in Italy, 206; Earthquakes of Pacific Coast, 1767-1897, Dr. E. S. Holden, 231; Earthquakes in Chile, 299  
 Easterfield, (T. H.), Cannabinol, 238; Oxidation of Charcoal by Nitric Acid, 238  
 Eaton (G. F.), Prehistoric Fauna of Block Island, 432  
 Ebbing and Flowing Well at Newton Nottage, H. G. Madan, 45  
 Ebbing and Flowing Wells, W. F. Sinclair, 52; F. R. Mallet, 104  
 Ebers (Prof. Georg), Death of, 352; Obituary Notice of, 396  
 Echinoderm Fauna of New Zealand, the, H. Farquhar, 636  
 Echinoderms, Origin of, Prof. MacBride, 427  
 Eclipse, the Total Solar, of January 21, 1898, Prof. Copeland, 311  
 Eclipsed and Un-Eclipsed Sun, the, M. Deslandres, 258  
 Edinburgh Mathematical Society, 167, 191  
 Edinburgh Meeting of the British Medical Association, Dr. F. W. Tunnicliffe, 349  
 Edinburgh Royal Society, 46, 143, 190, 239, 311, 335  
 Edington (Dr.), Locust-Destroying Fungus, 354  
 Edmed (F. G.), Oleic Acid and its Derivatives, I., 142  
 Edmundson (T. W.), the Disruptive Discharge in Air and Liquid Dielectrics, 230  
 Edser (Edwin), Apparatus exhibiting Peculiarities of Interference Fringes when formed between Silvered Surfaces, 62; Simple Interference Method of Calibrating a Spectrometer, 62; Simple Method of Reducing Prismatic Spectra, 119  
 Education : University Education, Dr. Michael Foster, Sec. R.S., 283; a Minister of Education at Last, 324; the Board of Education Bill, 358; Rt. Hon. Arthur Balfour on Examinations, 634; Sir W. H. White on Engineering Education, 634; Gifts to Educational Institutions in United States, 634; Technical Education, Technical High Schools, a Comparison, Sir Philip Magnus, 52  
 Edward (Robert), the Mechanical Engineer's Handy Office Companion, 318  
 Eel in Open Sea, Léon Vaillant, 96  
 Eel-Serum, the Toxicity of, and Further Studies on Immunity, Mrs. Percy Frankland, 369

Effront (Jean), Action of Oxygen on Yeast, 384  
 Egyptology : Prehistoric Egypt, Prof. W. M. Flinders Petrie, 31; Egyptian Native Remedies for Rabies, 301; Creation Records discovered in Egypt, G. St. Clair, 315; Death of Prof. George Ebers, 352; Obituary Notice of, 396  
 Eldridge (G. H.), Geology of the Denver Basin in Colorado, 82  
 Electricity : Thermo-Electric Electromotive Forces in Crystallised Bismuth, Louis Perrot, 23; Constitution of Explosive Spark in Dielectric Liquid, L. Décombe, 23; Electrical Impressions on Photographic Plates, A. S. Bates, 32; Figures produced on Photographic Plates by Electric Discharges, J. A. McClelland, 142; the Action of Electric Discharges on Photographic Plates, A. A. C. Swinton, 151; Improvements on Melloni Thermo-pile, Prof. H. Rubens, 39; Receiver for Hertzian Telegraphy without Wires, E. Ducretet, 47; Comparison of Hertzian Field in Air and Oil, Albert Turpain, 167; Resonators, M. Oudin, 167; Hertzian Oscillations arrested by Thin Metallic Envelope, E. Branly, 264; Stationary Hertzian Waves as studied with Use of Coherer, Prof. O. Murani, 552; Electric Light Wires as Telephonic Circuits, Rev. F. J. Jarvis-Smith, F.R.S., 51; Electric Current Meter acting by Electrolysis, C. O. Bastian, 61; Kathode Ray Lamps, A. A. C. Swinton, 61; Light Nodes in Kathode Ray Bundle under Influence of Magnetic Field, E. Wiedemann and A. Wehnelt, 93; the Kathode Rays, P. Villard, 143; Kathode Fall in Potential of Gases, J. W. Capstick, 214; Behaviour of Kathode Rays parallel to Electric Force, P. Lenard, 491; the Dark Kathode Space, A. Wehnelt, 491; Circulation of Residual Gaseous Matter in Crookes' Tubes, A. A. C. Swinton, 61, 119, 627; a Crookes' Tube Revivable by Osmosis, P. Villard, 96; Series Dynamo Machines, Carl Kinsley, 72; New Form of Make and Break, C. T. Knipp, 92; Galvanometers, Prof. W. E. Ayrton and T. H. Mather, 93; Conductivities of Electrolytes, F. Kohlrausch, L. Holborn, and H. Diesselhorst, 93; a Property of Fluorescent Screens, P. Villard, 96; the Industrial Applications of Electro-Chemistry, Dr. Thos. Ewan, 112; Modifications in Quadrant Electrometer, J. Elster and H. Geitel, 117; Fluorescence and Actino-Electricity, G. C. Schmidt, 117; the Theory of Sound, J. W. Strutt, Baron Rayleigh, F.R.S., 121; Infra-Electric Radiations, Prof. P. de Heen, 132; Simple Method of Converting Alternating into Direct Currents, Signor A. Dina, 132; Possibility of Deducing Magneto-Optic Phenomena from Direct Modification of Electro-dynamic Energy Function, J. G. Leatham, 142; Electro-physiology, W. Biedermann, 150; Recent Advances in Electro-physiology, Prof. Boruttan, 483; Electrical Response of Nerve to a Single Stimulus investigated with Capillary Electrometer, Prof. F. Gotch, F.R.S., and G. J. Burch, 166; the Complete Scheme of Electro-dynamic Equations of a Moving Material Medium, Joseph Larmor, F.R.S., 166; Attenuation of Electric Waves along Line of Negligible Leakage, E. H. Barton, 167; Diffusive Convection, A. Griffiths, 167; Electrical Properties of Gases, Prof. E. Wiedemann and Dr. G. C. Schmidt, 180; Function of Condenser in Induction Apparatus, P. Dubois, 187; Potential Gradients at Electrodes discharged by X-Rays, C. D. Child, 187; Exploration of Stratification of the Electric Discharge in Geissler Tubes, H. V. Gill, 187; Aluminium as Electrode, Ernest Wilson, 188; Direct Measurements in Electromagnetic Units of Electricity, A. Blondlot, 191; Electrical Resistance of Steel, H. Le Chatelier, 191; the Theory of the Hall Effect in a Binary Electrolyte, Dr. Donnan, 215; Hall's Effect in Electrolytes, E. van Everdinger, jun., 288, 514; Action of Two Electro-Motors Coupled so as to rotate at Different Speeds, Prof. Carus-Wilson, 215; Influence of Tempering on Resistance of Steel, H. Le Chatelier, 216; Electrical Resistance of Human Body, M. Dubois, 216; First Stage Magnetism and Electricity, R. H. Jude, 222; the Disruptive Discharge in Air and Liquid Dielectrics, T. W. Edmundson, 230; the Becquerel Rays, O. M. Stewart, 230; the Potentiometer and its Adjuncts, W. Clark Fisher, Prof. A. Gray, F.R.S., 313; the Principles of Alternate Current Working, Alfred Hay, Prof. A. Gray, F.R.S., 313; Electric Wiring for the Use of Architects, Underwriters, and the Owners of Buildings, Russell Rob, Prof. A. Gray, F.R.S., 313; Electric Transmission of Water Power in Switzerland, 328; Electrolysis of Ethyl Potassium Diethoxysuccinate, Prof. Crum Brown and Dr. H. W. Bolam, 335; the Leidenfrost Drop, J. Stark, 335; Electromotive Behaviour of Chromium, W. Hittorf, 335;

- Electrical Discharge from Kinetic Point of View, J. E. Moore, 335; the Weston Standard Cell, P. Kohnstamm and E. Cohen, 335; Thermophones, F. Braun, 335; Electric Discharge in Rarefied Gases, W. Wien, 335; Polarisation of Röntgen Rays, L. Graetz, 335; Electrical Resistance at Contacts of Two Discs of same Metal, E. Branly, 336; Velocity of Electrified Particles during Discharge by Ultra-Violet Light, H. Buisson, 336; the Electrical Resistance and Micro-Structure of Alloys, Saville Shaw, 356; a Five-Cellar Quadrant Electrometer, Prof. Haga, 360; Electrodynamics: the Direct Current Motor, C. A. Carus-Wilson, 366; Obituary Notice of Dr. John Hopkinson, F.R.S., 419; Influence of Electricity on Sedimentation of Turbulent Liquids, W. Spring, 422; Essai sur la Théorie des Machines Electriques à Influence, V. Schaffers, 466; an Introductory Course of Practical Magnetism and Electricity, J. Reginald Ashworth, 466; International Conference of Terrestrial Magnetism and Atmospheric Electricity, Opening Address by Prof. A. W. Rücker, Sec. R.S., President of the Conference, 473; Prof. A. D. Waller, F.R.S., on the Influence of Salts upon the Electromobility of Medullated Nerve, 482; Microscopic Observations of Coherers, L. Arons, 491; Electrolytic Solution of Platinum and Gold, M. Margules, 491; Canalisation Electriques, R. V. Picou, 519; Prof Chattock on Experiments to Determine the Velocity of Electricity in the Electric Wind, 533; Electrosynthesis, W. G. Mixer, 539; the Jungfrau Railway, 550; Nature of Discharges in Air and Gases, Prof. John Trowbridge, 604; on the Application of the Electric Motor to the Engineering Workshop, A. Siemens, H. H. Gibbings, and W. Geipel, 608; Magneto and Electric Currents, Prof. J. A. Fleming, 614; Photographing Lightning by Day, F. H. Glew, 627; Mixture of Marsh Gas and Air not exploded by Glowing Filaments of Incandescent Lamp, H. Couriot and J. Meunier, 635; Variation of Dielectric Constants with Temperature, H. Pellat and P. Sacerdote, 635; See also Section A, British Association
- Elephant, the Strangling of an, 115
- Ellis (William, F.R.S.), Sun-spot Period, 61; Magnetism and Sun-spots, 78
- Elsden (J. V.), Applied Geology, 615
- Elster (J.), Modification in Quadrant Electrometer, 117
- Embryos, Hybernating Reptilian, G. A. Boulenger, F.R.S., 619
- Emery (Dr. C. E.), Death of, 206
- Emmons (S. F.), Geology of the Denver Basin in Colorado, 82
- Encke's Comet, 160; the Movement of, Prof. Reginald A. Fessenden, 520
- Endosperm, on the Depletion of the, of *Hordeum vulgare* during Germination, Horace T. Brown, F.R.S., and F. Escombe, 331
- Energy, the Doctrine of, a Theory of Reality, 269
- Engineering: Experiments on the Working of Gas Engines, Prof. Frederick W. Burstall, 21; Death of Sir Robert Rawlinson, 131; Science in the Theatre, Edwin O. Sachs, 162; Death of Sir J. N. Douglas, F.R.S., 177; Death of Dr. C. E. Emery, 206; the Oldest known Steam Engine, 255; Machine Drawing, Thomas Jones and T. Gilbert Jones, 543; Novel Plan of increasing Dock Capacity, 582; on the Application of the Electric Motor to the Engineering Workshop, A. Siemens, H. H. Gibbings, and W. Geipel, 608; Engineering Education, Sir W. H. White, 634
- English Lexicon, a Maori, Rev. W. Colenso, 364
- Enock (Fred), Aquatic Hymenopteron, 175
- Entomology: Entomological Society, 71, 189, 611; Horn-Feeding Larvæ, W. H. McCorquodale, 140; Capt. G. G. Traherne, R.A., 521; Larvæ in Antelope Horns, Dr. Henry Strachan, 468; W. H. McCorquodale, 468; Maggots in Sheep's Horns, W. H. McCorquodale, 546; Death of W. M. Maskell, 108; Varieties of *Abraxas grossulariata*, Rev. J. Greene, 110; Drinking Habits of Butterflies and Moths, T. W. Tutt, 110; Obituary Notice of Osbert Salvin, F.R.S., 128; Food of the Uropoda, Surgeon-Captain Cummins, 189; Anatomy of *Cephalodiscus dodecalophus*, Dr. A. T. Masterman, 190; Observations on the Coloration of Insects, Brunner von Wattenwyl, 193; Lead-boring Insects, Dr. L. O. Howard, 230; a Text-Book of Entomology, including the Anatomy, Embryology and Metamorphoses of Insects, for Use in Agricultural and Technical Schools and Colleges, Prof. Alpheus S. Packard, 244; Gigantic Centipede in Zoological Gardens, 326; South African Coleoptera, L. Péringuey, 423; the Classification of Insects, Dr. David Sharp, 425; Evolution of Colour in Lepidoptera, M. C. Piepers, 425; Relation of Colours of Lepidoptera Chrysalids to Colour of Environment, M. Bordage, 425; Traces of Six Primitive Segments in Insects' Heads, Ch. Janet, 426; Handbuch der Blütenbiologie unter zugrundelegung von Hermann Müller's Werk, "Die Befruchtung der Blumen durch Insekten," Dr. Paul Knuth, Francis Darwin, F.R.S., 434; a New Coccus, *Echinopora ventricosa*, L. Leger, 516; Individual Wing-Variation in Lepidoptera, W. L. W. Field, 524; *Precis octavia-natalensis* and *P. Sesamus* Seasonal Forms of same Species, G. A. K. Marshall, 611; Colouring of Pupæ of *Papilio machaon* and *P. napi* derived from Surroundings, F. Merrifield, 611; *Asagena phalerata*, H. W. Freston, 635
- Epidemics among Mice, W. F. Kirby, 223
- Equations, Partial, Differential, E. Goursat, 266
- Eristalis tenax* in India, the Occurrence of, Notes on the Bugonia-Superstitions, Kumagusi Minakata, 101
- Errera (Prof. G.), Asymmetry and Vitalism, 616; Theoretical Calculation of Osmotic Optimum, 633; Structure of Yeast Cell, 633; Process for Preserving Flowers in Natural Colours, J. M. Hillier, 208; Errors, the Theory of; a Theory of Recurring Means, C. Lagrange, 487
- Eruptions, Geyser, some Conditions affecting, T. A. Jaggar, jun., 261
- Eschenhagen (Dr.), on the Magnetic and Electrolytic Actions of Electric Railways, 533
- Escombe (F.), on the Depletion of the Endosperm of *Hordeum vulgare* during Germination, 331
- Espin (Rev. T. E.), a Catalogue of Fourth-Type Stars, 401
- Essays on Museums and other Subjects connected with Natural History, Sir William Henry Flower, K.C.B., and Prof. R. Meldola, F.R.S., 217
- Essex, the Mammals, Reptiles and Fishes of, H. Laver, 242
- Estuaries, Crannogins, W. F. Sinclair, 521; R. J. Ussher, 571
- Ether, the Jelly Theory of the, C. Barus, 634
- Etheridge (R.), on the Relation and Extension of the Franco-Belgian Coal-field to that of Kent and Somerset, 558
- Ethic, Moral Sense and, Dr. St. George Mivart, 294
- Ethnology: Death of Prof. F. Müller, 108; the Atoll of Funafuti, Ellice Group: its Zoology, Botany, Ethnology, and General Structure, based on Collections made by Mr. Charles Hedley of the Australian Museum of Sydney, N.S.W., 221; Cast Metal Work from Benin, 224
- Etiology and Prevention of Malarial Fever, the, Dr. E. Klein, F.R.S., 175
- Etymology: the Use of Digraphs, F. A. Bather, 412
- Euclid on Balances and the Lever, an Obsolete Book of, Dr. G. Vailati, 207
- Euclid, a Simplified, W. W. Cheriton, 150
- Euclid's Geometry? is Continuity of Space necessary to, W. M. Strong, 310
- Euphrates, Nippur; or, Explorations and Adventures on the, J. P. Peters, 243
- Europe, the Tailless Batrachians of, G. A. Boulenger, F.R.S., 567
- Evans (Sir John), on the Relation and Extension of the Franco-Belgian Coal-field to that of Kent and Somerset, 559
- Evaporation, Dendritic Patterns caused by, Prof. G. H. Bryan, F.R.S., 174; Catherine A. Raisin, 224
- Everdingen (E. van, jun.), Hall's Effect in Electrolytes, 288, 514
- Evershed (J.), Solar Radiation, 619
- Evolution: the Origin and Growth of the Moral Instinct, Alexander Sutherland, 241; Mathematical Contributions to Theory of Evolution, V., Reconstruction of Stature of Pre-historic Races, Karl Pearson, F.R.S., 286; the Distribution of Prepotency, Prof. Karl Pearson, F.R.S., 292; Moral Sense and Ethic, Dr. St. George Mivart, F.R.S., 294; the Origin and Significance of Spines, C. E. Beecher, 335, 539, 635; the Descent of Man, Prof. Haeckel, 427; the Brain of *Pithecanthropus erectus*, E. Dubois, 427; Organic Variations and their Interpretation, J. T. Cunningham, 593; Rev. George Henslow, 594; Prof. W. F. R. Weldon, F.R.S., 595; Walter Garstang, 619
- Ewan (Dr. Thos.), the Industrial Applications of Electro-Chemistry, 112
- Examinations, Right Hon. Arthur Balfour on, 634
- Examinations, Science and Art, 435
- Expedition, the German Polar, 397
- Experimental Physics, Eduard Riecke, Prof. A. Gray, F.R.S., 566
- Explosifs Nitrids*, J. Daniel, 4

- Faby (C.), Method of Determining Order of Interference Fringe of High Order, 143
- Fairbanks (Arthur), the First Philosophers of Greece, 386
- Falconry, Hints on the Management of Hawks, J. E. Harting, 122
- Farmer (Prof. J. B.): the Present Position of some Cell Problems, 63; Action of Anaesthetics on Protoplasm, 93; on the Use of Methylene Blue as a Means of Investigating Respiration in Plants, 185, 215; Obituary Notice of Ferdinand Cohn, 275
- Farquhar (H.), the Echinoderm Fauna of New Zealand, 636
- Fat Transformation by Direct Oxidation, M. Hanriot, 635
- Fauna of British India, the, W. T. Blanford, 195
- Fauna of British India, the Flora and, 250
- Fauna and Flora of the Pamir, the, A. W. Alcock, 493
- Fauna, the Marine, in Lake Tanganyika, and the Advisability of Further Exploration in the Great African Lakes, J. E. S. Moore, 404
- Fellowships for Research, Prof. A. Gray, F.R.S., 600
- Fenton (H. J. H.): Action of Hydrogen Bromide on Carbohydrates, 189; on the Oxidation of Polyhydric Alcohols, 557
- Ferguson (Mr.), Record broken for High Kite Flight, 513
- Fergusson (R. Menzies), a Student of Nature, 543
- Ferns: Alternation of Generations in Thalophyta, Prof. Klebs, 632; Malayan Fern *Matonia*, A. C. Seward, 633
- Féry (C.), New Method of Determining Mechanical Equivalent of Heat, 119; a New Standard of Light, 23
- Fessenden (Prof. Reginald A.), the Movement of Encke's Comet, 520
- Fever, Malarial, the Etiology and Prevention of, Dr. E. Klein, F.R.S., 175
- Fewkes (Dr. J. Walter): Sun Worship by Tusayan Indians, 111; Tusayan Kachinas, 126; Tusayan Snake Ceremonies, 127; Human Effigy Vase from Arizona, 301
- Field (W. L. W.), Individual Wing-Variation in Lepidoptera, 524
- Fieron (A.), Méthode pour Abréger les Traversées en Utilisant les Perturbations de l'Atmosphère, 197
- Fiji Rubber, 302
- Finn (F.), Mimicry and Warning Colours, 88, 279; the Habits of Indian Birds, 208
- Fischer (Dr. Alfred), Vorlesungen über Bacterien, 76
- Fisher (W. Clark), the Potentiometer and its Adjuncts, 313
- Fishes: the Transport of Live Fish, D. O'Connor, 125; the Fisheries of Jamaica, J. E. Duerden, 158; the Mammals, Reptiles, and Fishes of Essex, H. Laver, 242; the Life-history of the Salmon, 280; the Memory of Fishes, Prof. W. C. McIntosh, 422; International Sea Fisheries Congress at Dieppe, 461, 511
- FitzGerald (Prof. Geo. Fras., F.R.S.), Chance or Vitalism, 545
- FitzGerald (W. W. A.), Travels in the Coastlands of British East Africa and the Islands of Zanzibar and Pemba, 6
- Fizeau Interference Dilatometer, a Compensated, A. E. Tutton, 118
- Flammation (M. Camille), Sunspot Periods and Natural Phenomena, 134
- Flatau (J.), New Method of Separating Geraniol and Citronellol, 191; Acids of Essential Oils of Geranium, 240
- Fleming (Dr. George), the Wanton Mutilation of Animals, 605
- Fleming (Prof. J. A.), on the Magnetic and Electrolytic Actions of Electric Railways, 533; Magnets and Electric Currents, 614
- Fleming (Mrs.), Stars having Peculiar Spectra, 258
- Fletcher (W. M.), on the Methods employed in his Investigation on the CO<sub>2</sub> Discharge of Excised Tissues, 481
- "Flicker," T. C. Porter, 188
- Flint Implements, Henry Lewis, W. J. L. Abbott, 16
- Flora of the Amboy Clays, the, John Strong Newberry, 81
- Flora of County Donegal, H. C. Hart, 615
- Flora and Fauna of British India, the, 250
- Flora of Perthshire, the, Dr. F. Buchanan White, 124
- Flow of Water, Prof. H. Hele-Shaw, 34, 520
- Flow of Water shown by Colour Bands, Prof. Osborne Reynolds, F.R.S., 467; Prof. H. Hele-Shaw, 467
- Flower (Sir William Henry, K.C.B.), Essays on Museums and other Subjects connected with Natural History, 217
- Flower Favourites, their Legends, Symbolism, and Significance, Lizzie Deas, 8
- Flowers, Distant Thunderstorms affecting, Rosemary Crawshaw, 390
- Flowing Wells, Ebbing and, H. G. Madan, 45; W. F. Sinclair, 52; F. R. Mallet, 104
- Fluorescent Screens, a Property of, P. Villard, 96
- Flusin (G.), Osmosis of Liquids through Vulcanised Rubber, 120
- Folk-Lore: Flower Favourites, their Legends, Symbolism, and Significance, Lizzie Deas, 8; Notes on the Bugonia Superstitions, the Occurrence of *Eristalis tenax* in India, Kumagasa Minakata, 101
- Folk Medicine in Ancient India, Dr. M. Winternitz, 233
- Food, Artificial, Dr. Sidney Williamson, 368
- Food Supply, Robert Bruce, 245
- Forcrand (M. de), the Oxides of Sodium, 432
- Forel (F. A.), Water-circulation in Rhône Glacier, 635
- Forestry, Proposed Model State Forest in Scotland, 277; Forestry in Cape Colony, D. E. Hutchins, 605; Anti-Tidal Protective Coast Plantation in Japan, Dr. Seiroku Honda, 627
- Forster (M. O.), Isomeric Bornylamine, 23
- Fortey (E. C.), Hexamethylene and its Derivatives, 23
- Fossils: Prof. O. C. Marsh on the Comparative Value of Different Kinds of Fossils in Determining Geological Age, 558; Anatomy of Coal-Measure Plants, Dr. Scott, 633; Malayan Fern *Matonia*, A. C. Seward, 633
- Foster (Dr. Le Neve, F.R.S.), the Causes of the Snafell Lead Mine Accident, 178; Mining Accidents in 1897, 461
- Foster (Dr. Michael, Sec. R.S.), University Education, 283; the Scientific Memoirs of Thomas Henry Huxley, 613
- Fourier's Series, Prof. Albert A. Michelson, 544; A. E. H. Love, F.R.S., 569
- Fourth-Type Stars, a Catalogue of, Rev. T. E. Espin, 401
- Fowler (James Kingston), the Diseases of the Lungs, 291
- France: France and International Time, 60; Destruction of the French Observatory in Madagascar, E. Colin, 259; French Match Manufactories, Dr. T. Oliver, 327; the French Astronomical Society, 356
- Francesco (D. de), the Dynamics of Impact, 582
- Franchimont (Prof.), Action of Sulphuric Acid of 35-40 % on Acid Aliphatic and Neutral Nitramines and their Isomers, 47
- Frankland (Prof. Percy, F.R.S.), a Life of Pasteur, 290; an Additional Photographic Action, that of Bacteria, 557
- Frankland (Mrs. Percy), the Bacterial Character of Calf Lymph, 44; a Life of Pasteur, 290; the Toxicity of Eel-serum and Further Studies on Immunity, 369
- Franks (G. F.), *Globigerina*-Marls of Barbados, 190
- Fraser (Prof. F. R.), Bile of Venomous Serpents a most Powerful Antidote against Snake Venom, 461
- Fredericq (Léon), the Physiological Value of Salt, 462
- Freston (H. W.), *Asagena phalerata*, 635
- Frey (Prof. V.), on the Adequate Stimulation of Touch Nerves, 485
- Frog taken out of a Snake, Live, Rose Haig Thomas, 367; H. Ling Roth, 368
- Frogs: Climbing Habit in, 111; Air and Water as Factors in Food of Frogs, S. Jourdain, 612
- Fromme (C.), Magnetic After-Effect, 187
- Fron (George), Anatomical Structure of Beetroot Stem, 492; Cause of Spiral Structure of Chenopodiaceae Roots, 635
- Frost (Rev. Percival, F.R.S.), Death of, 131
- Funafuti, the Atoll of, Ellice Group: its Zoology, Botany, Ethnology, and General Structure, based on Collections made by Mr. Charles Hedley of the Australian Museum, Sydney, N.S.W., 221
- Future Rainfall, 30
- Gaedicke (J.), Der Gummidruck, 343
- Galt (Dr. A.), on the Heat of Combination of Metals in the Formation of Alloys, 532
- Galton (Francis, F.R.S.), the Distribution of Prepotency, 246; on Photographic Records of Pedigree Stock, 584
- Galvanometers, Prof. W. E. Ayrton and T. Mather, 93
- Gannett (Henry), the Geography of the United States, 497
- Garbett (E. L.), the Moon's Course, 571
- Garden-Making (L. H. Bailey), 290
- Gardiner (Stanley), the Building of Atolls, 425
- Gardner (Edmond G.), Dante's Ten Heavens, 362
- Gardner (J. A.), Halogen Derivatives of Fenchene, 238; Oxidation of Fenchene, 238
- Garstang (W.), on the Races and Migrations of the Mackerel, 584; Organic Variations and their Interpretation, 619
- Gas Engines, Experiments on the Working of, Prof. Frederick W. Burstall, 21
- Gas, Water; Opinion of Public Control Committee of London County Council, 276



- Gases, Solfatara, Prof. R. Nasimi, F. Anderlini, and R. Salvadori, 269
- Gases in Vacuum Tubes, Luminosity of, 463
- Gautier (A.), Causes of Uncertainty in Estimating Carbonic Acid and Water Vapour, 95; Method of Detecting and Estimating small amounts of Carbon Monoxide in Air in presence of Traces of Hydrocarbons, 71
- Gautier (M.), Tempel's Comet, 19
- Geddes (Prof. Patrick), on an Experiment in the Practical Teaching of Geography about to be tried in Edinburgh, 586
- Geikie (Sir Archibald), Scenery and Literature, 179
- Geikie (Prof. James, F.R.S.), the Berlin Geographical Society's Greenland Expedition, Erich von Drygalski, 413
- Geipel (W.), on the Application of the Electric Motor to the Engineering Workshop, 608
- Geitel (H.), Modifications in Quadrant Electrometer, 117
- Genvesse (P.), Phenyl-Phosphoric and Phenylene Phosphoric Acids, 612
- Geodetic Astronomy, a Text-book of, John F. Hayford, 543
- Geography: Travels in the Coastlands of British East Africa and the Islands of Zanzibar and Pemba, W. W. A. Fitzgerald, 6; Geographical Society Medals and Awards, 38; the Lob-Nor Controversy, P. K. Kozloff, 41; Sea Beaches and Sandbanks, Vaughan Cornish, 42; Vasco Da Gama, Sir Clements R. Markham, F.R.S., 67; a Northern Highway of the Tzar, Aubyn Trevor-Battye, 75; the Wupper River, Dr. C. Dammann, 109; Geographical Notes on Central and South China, 133; the Coasts of the Arctic Ocean, Dr. K. Hikish, 278; Five Years in Siam, from 1891 to 1896, H. Warington Smyth, Dr. Hugh Robert Mill, 322; Through Unknown Tibet, Captain M. S. Wellby, 347; Progressive Increase of Po Delta, Prof. Marinelli, 353; Volume of Amazon River at Obydos, Dr. Friedrich Katzer, 399; a School Geography, George Bird, 411; Grönland-Expedition der Gesellschaft für Erdkunde zu Berlin 1891-93, Erich von Drygalski, Prof. James Geikie, F.R.S., 413; the Old Beds of the Amu-Daria, 430; the Geography of the United States, Henry Gannett, Dr. Hugh Robert Mill, 497; Papagueria, W. J. McGee, 525; the Adochidarja Gulf, 525; Memoirs for Caucasian Branch of Russian Society, 539; Northward over the "Great Ice," Robert E. Peary, Dr. Hugh Robert Mill, 589; Death of Don F. C. de Portugal, 626
- Geology: Death of Dr. K. L. F. von Sandberger, 16; Petro-liferous Sands and Mud Volcanoes in Burma, Dr. Fritz Noetting, 20; Maryland Geological Survey, 29; Iowa Geological Survey, 29; Geological Society, 45, 71, 141, 189, 239; Ebbing and Flowing Well at Newton Nottage, H. G. Madan, 45; Ebbing and Flowing Wells, W. F. Sinclair, 52; F. R. Mallet, 104; the Auriferous Conglomerates of Gold Coast Colony, T. B. F. Sam, 46; Death of W. C. Lucy, 57; the Earth's Age, J. G. Goodchild, 59; Discovery of Crater of Mesozoic Age in Pennsylvania by E. Goldsmith, 59; the Petrification of Fossil Bones, E. Goldsmith, 59; Carboniferous Limestone of Country round Llandudno, G. H. Morton, 71; Monographs of the United States Geological Survey, 81; the Glacial Lake Agassiz, Warren Upham, 81; the Flora of the Amboy Clays, John Strong Newberry, 81; Geology of the Denver Basin in Colorado, S. F. Emmons, Whitman Cross and G. H. Eldridge, 82; the Marquette Iron-bearing District of Michigan, C. R. van Hise and W. S. Bayley, 82; Death of Edward Wilson, 85; Obsidian Buttons in Australia, 109; Lava Flows of California, F. L. Ransome, 117; New Jurassic Vertebrates from Wyoming, W. C. Knight, 117; Huge Gypsum Boulder, T. M. Reade, 132; Garnet Actinolite Schists on South Side of St. Gothard, Prof. Bonney, F.R.S., 141; Volcanic Series in Malvern Hills, H. D. Acland, 142; Orthoclase as Gangue Mineral in Fissure Vein, W. Lindgren, 187; Natural Gas in East Sussex, C. Dawson, 189; Dr. G. T. Hewitt, 190; High Level Gravels in Berkshire and Oxfordshire, O. A. Shrubsole, 190; *Globigerina*-Marls of Barbados, G. F. Franks and Prof. J. B. Harrison, 190; Post-Glacial Beds exposed in cutting of New Bruges Canal, T. M. Reade, 239; High Level Marine Drift at Colwyn Bay, T. M. Reade, 239; Geology of Franz Josef Land, Dr. R. Koettlitz, 239; Corallian Rocks of Upware, C. B. Wedd, 239; Glaciers of Russia in 1896, Prof. Mushketoff, 256; Indian Palaeontology, Dr. Fritz Noetting, 257; Dr. Carl Diener, 257; Geological History of Recent British Flora, Clement Reid, 278; Death of Prof. James Hall, 351; Obituary Notice of, 372; Death of M. Pomel, 373; the Inter-glacial Submergence of Great Britain, H. Munthe, 374; a Yorkshire Moor, Prof. L. C. Miall, F.R.S., 377, 401; Iowa Geological Survey, 389; Glaciation of North Central Canada, J. B. Tyrrell, 399; a Dragon of the Prime, 418; the Old Birds of the Amu-Daria, 430; Report on the Natural History Results of the Pamir Boundary Commission, A. W. Alcock, 493; Death of Mr. de Windt, 513; Geology for Beginners, W. W. Watts, 518; Purple Patches, F. Southerden, 521; the Work of Prof. O. M. Torell, 603; Applied Geology, J. V. Elsdon, Part I., 615; Eolian Origin of Loess, C. R. Keys, 634; See also Section C, British Association
- Geometry: Ludwig Otto Hesse's *Gesammelte Werke* herausgegeben von der Mathematisch-Physikalischen Classe der Königlich Bayerischen Akademie der Wissenschaften, 124; Is Continuity of Space necessary to Euclid's Geometry? W. M. Strong, 310
- George (George), Practical Organic Chemistry, 245
- Gepp (A.), Structures of *Dendroceros*, 46
- Germany: the Wupper River, Dr. C. Dammann, 109; Chemical Works in Germany, 256; German Deep-sea Expedition in the Steamship *Vaidavia*, 346; the German Polar Expedition, 397
- Germination, on the Depletion of the Endosperm of *Hordeum vulgare* during, Horace T. Brown, F.R.S., and F. Escombe, 331
- Gestation, the Span of, and the Cause of Birth, Dr. John Beard and Dr. Arthur Robinson, 173
- Geyser Eruptions, some Conditions affecting, T. A. Jaggar, jun., 261
- Ghost-dance Religion, the, and the Sioux Outbreak of 1890, James Mooney, 125
- Gibbins (H. H.), on the Application of the Electric Motor to the Engineering Workshop, 608
- Gibbeli (Dr. C. G.), Death of, 603
- Gifford (J. W.), on Lenses, not of Glass, 532
- Gilchrist (J. D. F.), Trout Acclimatisation in Cape Colony, 628
- Gill (H. V.), Explanation of Stratification of the Electric Discharge in Geissler Tubes, 187
- Gill (Dr.), on Sir John Herschel, 356
- Giraffe, the Senegal, 277; Death of, 373
- Glacial Lake Agassiz, the, Warren Upham, 81
- Glaciation of North Central Canada, J. B. Tyrrell, 399
- Glacier, Rhône, Water Circulation in, F. A. Forel, 635
- Glaciers of Russia in 1896, Prof. Mushketoff, 256
- Glanville (E. E.), Death of, 421
- Glass Blowing and Working, Thomas Bolas, 101
- Glass, Blue, with Chromium Base, André Duboin, 264
- Glazebrook (R. T., F.R.S.), James Clerk Maxwell and Modern Physics, 219
- Glycogen, Bouchard's Theory of Transformation of Fat into, Daniel Bertholet, 612
- Glyptic and Graphic Art applied to Palaeontology, 392
- Goat, the Angora, and a Paper on the Ostrich, S. C. Cronwright-Scheiner, 314
- Godfrey (C.), Röntgen Rays and Ordinary Light, 142
- Godfrey (F. R.), Why the New Zealand Kea attacks Sheep, 110
- Godlee (Rickman J.), the Diseases of the Lungs, 291
- Goebel (Dr.), Organographie der Pflanzen, 74
- Goutre, the Hematozoa of, E. Grosset, 264
- Gold in British Guiana, 352
- Goldsmith (E.), Discovery of Crater of Mesozoic Age in Pennsylvania, by, 59; the Petrification of Fossil Bones, 59
- Goodchild (J. G.), the Earth's Age, 59
- Gordon (Dr. Samuel), Death of, 16
- Gostling (Mildred), Action of Hydrogen Bromide on Carbohydrates, 189
- Gotch (Prof. F., F.R.S.), Electrical Response of Nerve to a Single Stimulus investigated with Capillary Electrometer, 166; Photographs of the Electrical Response of Nerve to Excitation, 483
- Göttingen Royal Society of Sciences, 360, 540
- Gottlieb (Prof.), Examination of the Muscle of Dogs which had been Bled to Death, 484
- Gouirand (G.), the Adherence of Copper Washes Used to Destroy Vine-Parasites, 336
- Goursat (E.), Leçons sur l'intégration des Équations aux dérivées partielles du Second ordre à deux Variables Indépendantes, 266
- Goutal (M.), Silicon and Chromium in Steels, 47

- Graetz (L.), Polarisation of Röntgen Rays, 335  
 Granger (Albert), Production of Tungsten Blue, 287; Influence of Chemical Composition of Glass on its Coefficient of Expansion, 581  
 Grating Spectroscope, a New Form of, Prof. Michelson, 280  
 Gravity: Local Variations in Intensity near Mount Etna, and in Eastern Sicily generally, A. Ricco, 354  
 Gray (Prof. A., F.R.S.), James Clerk Maxwell and Modern Physics, R. T. Glazebrook, F.R.S., 219; the Potentiometer and its Adjuncts, W. Clark Fisher, 313; the Principles of Alternate Current Working, Alfred Hay, 313; Electric Wiring for the Use of Architects, Underwriters, and the Owners of Buildings, Russell Rob, 313; Lehrbuch der Experimental-Physik, Eduard Riecke, 566; Fellowships for Research, 600  
 Greece, the First Philosophers of, Arthur Fairbanks, 386  
 Green (Prof. Reynolds), Enzyme of Yeast Plant, 633  
 Greene (Rev. J.), Varieties of *Abraxas grossulariata*, 110  
 Greenhill (Prof. A. G., F.R.S.), Theoretical Mechanics: an Introductory Treatise on the Principles of Dynamics, with Applications and Numerous Examples, A. E. H. Love, F.R.S., 169  
 Greenland Expedition, the Berlin Geographical Society's, Erich von Drygalski, Prof. James Geike, F.R.S., 413  
 Greenly (E.), on a Case of Boulder-Uplift at Llandegfan, Menai Straits, 558  
 Greenwich, the Royal Observatory, Annual Report, 134  
 Gregory (Dr. J. W.), the Stramberg Corals, Maria M. Ogilvie, 282; on the Theory of Arrangement of Oceans and Continents on the Earth's Surface in the Light of Geological and Physical Observations, 586  
 Griffini (Dr. Achille), Storia Naturale, per la Gioventù Italiana, 389  
 Griffiths (A.), Diffusive Convection, 167  
 Griffon (Ed.), Chlorophyll Assimilation in Maritime Plants, 564  
 Groom (T.), on the Age and Geological Structure of the Malvern and Abberley Ranges, 558  
 Groos (Karl), the Play of Animals: a Study of Animal Life and Instinct, 410  
 Grosset (E.), the Hematozoa of Goitre, 264  
 Ground-Sloths, a Living Representative of the Old, 547  
 Guebbard (Dr. A.), the Supposed Photographs of Currents from Human Body, 207  
 Guiana, British, Gold in, 352  
 Guillet (A.), Mode of Supporting Motion of Pendulum, 287  
 Guillon (G. M.), the Adherence of Copper Washes Used to Destroy Vine-Parasites, 336  
 Gulf and River St. Lawrence, Character and Progress of the Tides in the, as Ascertained by Simultaneous Observations with Self-Registering Tide-Gauges, W. Bell Dawson, 260  
 Günther (Dr. Albert, F.R.S.), the Medusa of Lake Urumiah, 319  
 Günther (R. T.), the "Jelly-fish" of Lake Urumiah, 435  
 Guntz (M.), Heat of Formation of Lithium Carbide, 240  
 Gutta-Percha, Dr. Eugene F. A. Obach, 136  
 Gutta-Percha and India-Rubber, 236; Sources of, Dr. D. Morris, 514  
 Guyau (M.), Morality Independent of Obligation or Sanction, 567  
 Guyot (A.), the Di-alkylamidoanthraquinones, 143  
 Guyou (E.), les Problèmes de Navigation et la Carte Marine, 10  
 Gypsum Boulder, Huge, T. M. Reade, 132  
 Haddon (Alfred C.), the Study of Man, 410  
 Haeckel (Prof.), the Descent of Man, 427  
 Haffkine's (Dr.) Methods and the Plague in Calcutta, 85  
 Haffkine's (Prof.) Inoculation System as a Plague Preventive, 354  
 Haga (Prof.), Maxima and Minima of Apparent Brightness due to Optical Illusion, 288; a Five-Cellar Quadrant Electrometer, 360  
 Hagemann (Prof.), Researches on the Actual Nutritional Value of the Feed of the Horse, 484  
 Hagen (Dr. J. G.), Atlas of Variable Stars, 606  
 Hahn (Dr. Martin), on the Chemical and Immunising Properties of Plasmines, 484  
 Hail, Mineral, in Russian Poland, M. Czernik, 352  
 Hailstones, Remarkable, Samuel N. Player, 223  
 Hairless Rat, a, T. V. Hodgson, 546  
 Hale (Prof. G. E.), the Large Refractors of the World, 160  
 Hall (Prof. James), Death of, 351; Obituary Notice of, 372  
 Hall-Effect in Electrolytes, Dr. E. van Everdingen, jun., 288, 514  
 Haller (A.), the Di-Alkylamidoanthraquinones, 143  
 Haliburton (Prof.), on the Influence of Cholin, Neurine, and some Allied Substances upon the Arterial Blood-pressure, 483  
 Hallopeau (L. A.), Action of Hydrogen on Potassium Paratungstate, 264; Crystallised Tungsten Dioxide and Tungstolium Tungstate, 612  
 Halo, Solar, of July 3, Catharine O. Stevens, 224  
 Halos, Solar, W. Larden, 344  
 Hamburger (Prof. H.), on the Influence of Solutions of Inorganic Salts on the Volume of Animal Cells, 481  
 Hampson (Dr. W.), Liquid Hydrogen, 77, 174, 246, 292  
 Hamy (Maurice), Interference Fringes Applied to Study of Micrometers, 216  
 Hanna (H.), *Corallorhiza innata* and its Mycorrhiza, 464  
 Harriot (M.), Fat Transformation by Direct Oxidation, 635  
 Harcourt (Vernon), on his New 10-Candle Pentane Lamp, 557  
 Hargrave (Lawrence), a Propeller Kite, 312  
 Harraca (J. M.), Contributions a l'Étude de l'Hérédité et des Principes de la Formation des Races, 519  
 Harrison (Dr. A. J.), on the so-called Fascination of Snakes, 585  
 Harrison (Prof. J. B.), *Globigerina*-Marls of Barbados, 190  
 Hart (H. C.), Flora of County Donegal, 615  
 Hart (J. H.), Economic Botany in the West Indies, 87  
 Harting (J. E.), Hints on the Management of Hawks, 122  
 Hartley (E. G. J.), Analysis of Cornish Chalcophyllite, 311  
 Hartman (C. M. A.), Composition and Volumes of Co-existing Phases of Mixtures of Methyl Chloride and Carbonic Acid, 360  
 Harvard Astrophysical Conference, the, 630  
 Harvard, Conference of Astronomers at, 232  
 Harveian Oration, the, Sir Dyce Duckworth, 602  
 Haswell (Prof. W. A., F.R.S.), a Text-book of Zoology, 25; Zoology as a Higher Study, 247  
 Haswell's, Parker and, Text-book of Zoology, Prof. W. N. Parker, 200  
 Hawaiian Skulls, Study of, Dr. Harrison Allen, 230  
 Hawks, Hints on the Management of, J. E. Harting, 122  
 Hay (Alfred), the Principles of Alternate Current Working, 313  
 Hay (O. P.), Species of Ichthyodectes, 539  
 Hayford (John F.), a Text-book of Geodetic Astronomy, 543  
 Hazen (Prof. H. A.), the Weather of Manila, 256; the Moon and Auroræ, 304  
 Heat: Improvements on Melloni Thermo-Pile, Prof. H. Rubens, 39; Apparatus illustrating Berthelot's Interference Method of Measuring High Temperatures, Prof. W. C. Roberts-Austen, F.R.S., 62; Temperature Coefficients of certain Seasoned Hard Steel Magnets, Arthur Durward, 92; New Method of determining Mechanical Equivalent of Heat, J. B. Baille and C. Féry, 119; Method of Facilitating Measurement of Temperature by Platinum Thermometry, E. B. H. Wade, 142; Thermal Conductivity of Nickel, T. C. Baillie, 143; Recent Experiments on certain of the Chemical Elements in Relation to Heat, Prof. W. A. Tilden, F.R.S., 160; Transference of Heat in Cooled Metal, Henry Bourget, 200, 521; Albert T. Bartlett, 411; John Stone Stone, 596; Boiling Point of Liquid Ozone, L. Troost, 216; Heat Dissipated by Platinum Surface at High Temperatures, J. E. Petavel, 237; Error of M. Regnault in determination of Specific Heat of Air at Constant Pressure, A. Leduc, 240; Heat of Formation of Lithium-Carbide, M. Guntz, 240; Recent Work in Thermometry, Dr. C. Chree, F.R.S., 304; Variation of Thermic Conductivity with Temperature, Paolo Straneo, 329; Freezing Point of Aqueous Solutions of Sodium Mellitate, W. W. Taylor, 335; Melting Points of Substances under High Pressure, E. Mack, 432; Theoretical Derivation of Constant of Dulong and Petit's Law, H. Staigmüller, 491; Thermal Conductivity of Sandstone increased by Pressure, Dr. Lees, 524; Transition Temperature of Sodid Sulphate, T. W. Richards, 539; the Heat Efficiency of Steam Boilers, Land, Marine, and Locomotive, Bryan Donkin, 543; Surfusion of Metals and Alloys, Prof. W. C. Roberts-Austen, F.R.S., 619  
 Heavy Rainfalls, C. Driberg, 78  
 Hébert (A.), Use of Manures in Horticulture, 216  
 Hedley (C.), Australian Ship Worms, 240  
 Heen (Prof. P. de), Infra-Electric Radiations, 132  
 Heger (Prof.), on the Changes in the Form of the Neurons of the Cortex Cerebri under Various Conditions of Rest and Excitation, 481

- Heidelberg, the New Observatory at, 376  
 Hele-Shaw (Prof. H. S.), the Flow of Water, 34, 520; of Flow of Water shown by Colour Bands, 467; on the Motion of a Viscous Fluid between Two Parallel Plates, 535; Instruments for describing Cycloidal Curves and Envelopes, 61; on a New Instrument for Drawing the Curves which can be got by Rolling One Circle on Another, 534  
 Helium, Argon and Krypton in Scheme of Elements, Position of, Sir William Crookes, F.R.S., 383  
 Helium in the Atmosphere: E. C. C. Baly, Prof. William Ramsay, F.R.S., and Dr. Morris W. Travers, 545; Sir William Crookes, F.R.S., 570  
 Hemming (J. Hughes), the Moon's Course, 545  
 Hemsley (Dr. Botting, F.R.S.), Obituary Notice of Surgeon-Major J. S. T. Aitchison, M.D., F.R.S., 578  
 Hennig (Dr.), the Cold Days of May, 374  
 Henriët (H.), the Carbonic Acid of the Air, 168; Atmospheric Carbon Dioxide, 408  
 Henslow (Rev. George), Organic Variations and their Interpretations, 594  
 Hepatic Cirrhosis, Clinical Varieties of, Dr. Alexander James, 349  
 Herdman (Prof. W. A., F.R.S.), Modified Pedal Muscles in Oyster, 216; on the Final Report of the Oyster Committee, 585  
 Heredity: the Distribution of Prepotency, Francis Galton, F.R.S., 246; Prof. Karl Pearson, F.R.S., 292; a Case of Inherited Instinct, Captain T. W. Hutton, F.R.S., 411; Prof. T. D. A. Cockerell, 546; Contributions à l'Étude de l'Hérédité et des Principes de la Formation des Races, J. M. Harraca, 519; Recent Advances in Science and their Bearing on Medicine and Surgery, Prof. R. Virchow, For. Member R.S., 554  
 Hering (Dr.), Demonstration in the Monkey (*Macacus*) of Inhibition of the Contraction of Voluntary Muscle evoked by Electrical Excitation of certain Points of the Cortex Cerebri, 483  
 Hering (Rudolph), the Bacterial Process of Sewage Purification, 628  
 Hermaphroditism in the Apodidae, Henry Bernard, 78  
 Hérouard (E.), *Traité de Zoologie Concrète*, 25  
 Herpes in the Horse, a New Trichophyton productive of, MM. Matruchet and Dassonville, 359  
 Herschel (Sir John), Dr. Gill on, 356  
 Hesse (Ludwig Otto) *Gesammelte Werke*, Herausgegeben von der Mathematisch-Physikalischen Classe der Königlich Bayerischen Akademie der Wissenschaften, 124  
 Hett (C. L.), a Dictionary of Bird Notes, 366  
 Hewitt (J. T.), Condensation of Chloral Hydrate with Orcinol, 23; Natural Gas in East Sussex, 190  
 Heymans (Prof.), upon Physiological and Artificial Disintoxication, 482  
 Hibernating Reptilian Embryos, Prof. A. Dendy, 609; G. A. Boulenger, F.R.S., 619  
 Hickson (Prof. Sydney J., F.R.S.), Rotifers in Lake Bassenthwaite, 200  
 Hidden (W. E.), Rhodolite, 92  
 High Speed Telegraph Transmission by Means of Alternators, Prof. A. C. Crehore, Lieut. G. O. Squier, 211  
 Hikish (Dr. R.), the Coast of the Arctic Ocean, 278  
 Hill (Dr. Leonard), on the Influence of Gravity on the Circulation of the Blood, 481  
 Hillebrand (W. F.), Vanadium and Molybdenum in United States, 539  
 Hillier (J. M.), Preservative Solution in Use at Ghent Botanic Garden and Prof. Errera's Process, 208  
 Himalaya, Sikkim, Orchids of the, Sir George King and Robert Pantling, 465  
 Histology: Sleep and the Theory of its Cause, 8  
 History of Scientific Instruction, a Short, Sir Norman Lockyer, K.C.B., F.R.S., 572  
 Hittorf (W.), Electromotive Behaviour of Chromium, 335  
 Hodgkinson (Prof.), on Alkaline Chlorates and Sulphates of the Heavy Metals, 556  
 Hodgson (Shadworth H.), the Metaphysic of Experience, 517  
 Hodgson (T. V.), a Hairless Rat, 546  
 Hogarth (Mr.), the Phylakopi (Melos) Excavations, 627  
 Hogg (A. F.), a Chemical Laboratory Course, 592  
 Holborn (L.), Conductivities of Electrolytes, 93  
 Holden (Dr. E. S.), Earthquakes of Pacific Coast, 1767-1897, 231  
 Holiday Dream, a Potential Matter, Prof. Arthur Schuster, F.R.S., 367, 618  
 Holland (T. H.), on the Comparative Action of Sub-aerial and Submarine Agents in Rock Decomposition, 558  
 Holothuria, Arborescent Organs of, L. Bordas, 635  
 Holtermann (Dr. Carl), *Mykologische Untersuchungen aus den Tropen* (Mycological Researches in the Tropics), 590  
 Homfrey (D.), a Pocket Dictionary of Hygiene, 495  
 Honda (Dr. Seiroku), Anti-Tidal Protection Coast Plantation in Japan, 627  
 Hooker (Sir J. D.), Linnean Society Commemoration Medal presented to, 107  
 Hope (W. B.), on the Questions of the Nucleo-Proteids as Dietetic Precursors of Uric Acid, 484  
 Hopkins (Dr. F. G.), on the Questions of the Nucleo-Proteids as Dietetic Precursors of Uric Acid, 484  
 Hopkins (Prof. William J.), the Telephone: Outlines of the Development of Transmitters and Receivers, 568  
 Hopkinson (Dr. John, F.R.S.), Obituary Notice of, 419  
*Hordeum vulgare*, on the Depletion of the Endosperm of the, during Germination, Horace T. Brown, F.R.S., and F. Escombe, 331  
 Hornaday (William T.), the Destruction of the Birds and Mammals of the United States, 308  
 Horn-Feeding Larvæ, W. H. McCorquodale, 140; Captain G. G. Traherne, R.A., 521  
 Horns, Antelope, Larvæ in, Dr. Henry Strachan, 468; W. H. McCorquodale, 468  
 Horns, Maggots in Sheep's, W. H. McCorquodale, 546  
 Horse, a New Trichophyton Productive of Herpes in, MM. Matruchet and Dassonville, 359  
 Horse-Chestnut, Re-Blossoming of, 521  
 Horticulture: the Slime Flux Disease of Fruit Trees, George Massee, 133; Use of Manures in Horticulture, A. Hébert and G. Truffaut, 216; Garden-Making, L. H. Bailey, 290; the Pruning-Book, L. H. Bailey, 290; Dobbie's Horticultural Handbooks, 318  
 Hose (Ernest), Wild Pigs and Python, 133  
 Howard (Dr. L. O.), Lead-Boring Insects, 230  
 Howe (E.), Detection of Sulphides, Sulphates, Sulphites, and Thiosulphates in each other's Presence, 634  
 Howe (Herbert), Elements of Descriptive Astronomy, 198  
 Hubbard (Mrs. E.), a Late Cuckoo, 487  
 Hubrecht (Prof.), Origin of Red Blood Corpuscles in *Tarsius*, 428  
 Hudleston (W. H., M.A., F.R.S.), Opening Address in Section C of the British Association, 476  
 Hudson (W. H.), Birds in London, 172  
 Hughes-Gibb (Eleanor), the Making of a Daisy, 198  
 Hugot (C.), Action of Sodammonium on Arsenic, 635  
 Hull (Dr. Edward, F.R.S.), Sub-Oceanic Terraces and River Channels off the Coast of Spain and Portugal, 51; the Sub-Oceanic Physical Features of the North Atlantic, 559  
 Hungary, Spiders of, Cornelio Chyzer, Ladislao Kulczynski, R. I. Pocock, 365  
 Hunt (Dr. T. S., F.R.S.) as a Chemist, James Douglas, 551  
 Huret (Dr. C. H.), Death of, 58  
 Hurricane, Windward Islands, 512; Meteorological Statistics of, H. Powell, 551  
 Hutchins (D. E.), Forestry in Cape Colony, 605  
 Hutton (Captain F. W., F.R.S.), a Case of Inherited Instinct, 411  
 Huxley's Memoirs, the First Volume of, W. T. Thiselton-Dyer, F.R.S., 613  
 Huygens (Christian), *Œuvres Complètes* de, Dr. J. L. E. Dreyer, 361  
*Hybodus grossicornis*, a Tooth of, from the Inferior Oolite, Thos. Beacall, 390  
 Hydraulics: the Flow of Water, Prof. H. S. Hele-Shaw, 34, 520; Flow of Water shown by Colour Bands, Prof. Osborne Reynolds, F.R.S., 467; Prof. H. S. Hele-Shaw, 467; the Flow of Water in Uniform Pipes and Channels, G. H. Knibbs, 354  
 Hydrogen, Liquid, 55; Dr. W. Hampson, 77, 174, 246, 292; Prof. James Dewar, F.R.S., 125, 199, 270, 319  
 Hydrogen, the Spectrum of, in Nebule, Prof. Scheiner, 41  
 Hydrography: Méthode pour Abréger les Traversées en Utilisant les Perturbations de l'Atmosphère, A. Fieron, 197; Undercurrents in the Strait of Bab-el-Mandeb, Rear-Admiral Sir W. J. L. Wharton, K.C.B., F.R.S., 544  
 Hydrometer, a New, Rev. H. O'Toole, 191, 524



- Hygiene: Micro-Biology as Applied to Hygiene, 15; the Septic Treatment of Sewage, 229; the U.S. Steamship *Protector*, 488; a Pocket Dictionary of Hygiene, C. T. Kingzett and D. Homfrey, 495; Congress of Sanitary Institute, 522; the Disposal of the Town Refuse of Naples, Prof. P. Boubée, 524; Natural Hygiene, H. Lahmann, 614; the Bacterial Process of Sewage Purification, Rudolf Hering, 628
- Hymenopteron, Aquatic, Fred Enock, 175
- Hypnotism, the Psychological Side of, Mr. Myers, 350
- Iceland: Th. Thoroddsen, Geschichte der Isländischen Geographie, Vorstellungen von Island und seines Natur, und Untersuchungen darüber in alter und neuer Zeit, 568
- Ichthyology: Eel in Open Sea, Léon Vaillant, 96; the Transport of Live Fish, D. O'Connor, 125; *Ethoprorus periscillata*, Mr. Ogilby, 192; the Life-History of the Salmon, 280
- Idealism, the Return from, Shadworth H. Hodgson, 517
- Illuminated Bucys, J. Pintsch, 489
- Immunity, the Toxicity of Eel-Serum and further Studies on, Mrs. Percy Frankland, 369
- Impact, the Dynamics of, D. de Francesco, 582
- Imperial Institute, Indian Coals at the, Bennett H. Brough, 380
- Incandescent Burners, Radiation of, H. Le Chatelier and O. Boudouard, 240
- Incombustible Wood-Making Process, 328
- Index-Calculator, an Osteometric, David Waterston, 597
- India: Notes on the Bugonia Superstitions—the Occurrence of *Eristalis tenax* in India, Kumagusu Minakata, 101; the Fauna of British India, Birds, W. T. Blanford, 195; the Habits of Indian Birds, Frank Finn, 208; Folk-Medicine in Ancient India, Dr. M. Winternitz, 233; the Flora and Fauna of British India, 250; Indian Paleontology, Dr. Fritz-Noetting, 257; Dr. Carl Diener, 257; Indian Coals at the Imperial Institute, Bennett H. Brough, 380; Tea, Coffee and Cinchona Cultivation in India, 423; the Use of Aluminium for Cooking Utensils in India, Prof. Chatterton, 488; Inoculation against Plague, 581
- India-Rubber, Artificial, 302
- India-Rubber, Gutta-Percha, and, 236; see also Rubber
- Indians, American, Ceremonial Dances of the, 125
- Industrial Applications of Electro-Chemistry, the, Dr. Thos. Ewan, 112
- Infinitesimal Calculus, an Elementary Course of, Horace Lamb, F.R.S., 292
- Injection of Cocaine as a Remedy for Stings, 497
- Ink, Printer's, Photographic Action of, W. Trueman Tucker, 32
- Ink, Printer's, and Photographic Plates, Rev. F. J. Jarvis-Smith, F.R.S., 78
- Insects, Observations on the Coloration of, Brunner von Wattenwyl, 193
- Insects, a Text-book of Entomology, including the Anatomy, Embryology and Metamorphoses of, for use in Agricultural and Technical Schools and Colleges, Prof. Alpheus S. Packard, 244
- Instinct, a Case of Inherited, Captain F. W. Hutton, F.R.S., 411; Prof. T. D. A. Cockerell, 546
- Instinct, Moral, the Origin and Growth of the, Alexander Sutherland, 241
- Instinct, a Study of Animal Life and, the Play of Animals, Karl Groos, 410
- Instruction, a short History of Scientific, Sir Norman Lockyer, K.C.B., F.R.S., 597
- International Aeronautic Conference, 380
- International Conference of Zoologists, 376, 424
- International Conferences and the British Association, 522
- International Conference on Scientific Literature, Report of, 623
- International Sea Fisheries Congress at Dieppe, 461, 511
- International Time, France and, 60
- Interplanetary Medium, Metargon and the, J. R. Rydberg, 319
- Inwards (Richard), Weather Lore, 222
- Iowa Geological Survey, 29, 389
- Iridescent Clouds, E. Armitage, 390
- Iridescent Surf at Cromer, Constance F. Gordon Cumming, 174
- Iron: Method of Demonstrating Allotropic Change in, A. Stansfield, 62; Methods for the Analysis of Ores, Iron and Steel, in Use at the Laboratories of Iron and Steel Works in the Region about Pittsburgh, Pa., John Parry, 149; Manganese from Bog Ore, 256; the Swedish Iron Industry, R. A. Ker-
- man, 430; Swedish Iron Ore Mining, Prof. G. Nordenström, 430; the Iron Ore Deposits of Swedish Lapland, H. Lundbohm, 430; Journal of the Iron and Steel Institute, 150; the Stockholm Meeting of the Iron and Steel Institute, 430
- Isham (G. S.), Registering Solar Radiometer, 432
- Isomorphous Mixtures, the Phenomenon of Equilibrium in, Giuseppe Bruni, 627
- Issatschenko (Dr.), New Microbe Pathogenic to Rats, 179
- Istrati (C.), Diodo-Quinoline, 612; Solubility of Camphor, 635
- Italy, Earthquake in, 206
- Ives (Frederick), Krömsköp Colour Photography, 124; a Modified Camera Lucida, 311; a Monochromatic Green Screen, 311
- Jackson (Mr.), on the Oxidation of Polyhydric Alcohols, 557
- Jackson (Herbert), Phosphorescence, 559
- Jacques Carbon Consuming Cell, S. Skinner, 533
- Jaeger (Gustav), Problems of Nature, Researches and Discoveries of, 222
- Jagger (T. A., jun.), some Conditions affecting Geyser Eruptions, 261
- Jamaica, the Fisheries of, J. E. Duerden, 158
- James (Dr. Alexander), Clinical Varieties of Hepatic Cirrhosis, 349
- Jameson (Dr. H. Lyster), on a Race of Protectively Coloured Mice, 585
- Japan, Anti-Tidal Protective Coast Plantation, D. Seiroku Honda, 627
- Japp (Prof. F. R., LL.D., F.R.S.), Opening Address in Section B of the British Association Stereo-Chemistry and Vitalism, 452; Asymmetry and Vitalism, 616
- Jelly-fish, the, of Lake Urmiah, R. T. Günther, 435
- Jenkin (Arthur), the Motion of Falling Spray, 460
- Jenkin (Arthur P.), Luminous Clouds, 521
- Jennings (A. S.), *Corallorhiza innata* and its Mycorrhiza, 464
- Jerome (Dr. W. J. S.), Pharmacology, its Aims and Methods, 158
- Jervis-Smith (Rev. F. J., F.R.S.), Electric Light Wires as Telephonic Circuit, 51; Printer's Ink and Photographic Plates, 78
- Jewell (Mr.), Structure of the H and K lines, 280
- Job (André), Volumetric Analysis in Alkaline Solution, 264; Mode of Oxidation of Cobalt Salts in Alkaline Solutions, 287
- Johnson (Dr. G. Lindsay), Bacteria on an Ancient Bronze Implement, 52
- Johnstone (J.), Thymus and Thyroid Glands in Marsupialia, 46
- Jolly (A.), Compounds of Rhodium, 287
- Jones (A. W.), Simple Experimental Illustrations of Law of Multiples, 23
- Jones (Lionel M.), Elementary General Science, 123
- Jones (Thomas and T. Gilbert), Machine Drawing, 543
- Jourdain (S.), Air and Water as Factors in Food of Frogs, 612
- Journal of Botany, 117, 264, 635
- Journal of the Iron and Steel Institute, the, 150
- Jude (R. H.), First Stage Magnetism and Electricity, 222
- Julin (Prof.), on the Formation of the Heart, 585
- Jungfrau Electric Railway, the, 550
- Jupiter: Jupiter's Red Spot, Dr. Lohse, 20; the Red Spot on Jupiter and its Suspected Identity with previous Markings, W. F. Denning, 331; the First Satellite of, A. Douglass, 210; Observations of Jupiter during the Opposition 1898, Sir J. Comas Solá, 526
- Kaiserling (Dr. Carl), Practicum der Wissenschaftlichen Photographie, 268
- Kanthack (Prof. A. A.), System der Bakterien, Prof. W. Migula, 97; the Tsetse Disease in Mammals, 426
- Kathode Rays, the, P. Villard, 143
- Kathode and Röntgen Radiations, some New Studies in, Alan A. Campbell Swinton, 88; see also Radiography
- Katzer (Dr. Friedrich), Volume of Amazon River at Obydos, 399
- Kaulbars (Baron N.), the Aurora Borealis of September 9, 569
- Kea of New Zealand, the, Why it attacks Sheep, F. R. Godfrey, 110
- Keeler (Prof.), Atmosphere of D.M. + 30° 3639, 463
- Kellicott (Prof. D. S.), Death of, 39
- Keltie (Dr. J. Scott), on Political Geography, 586
- Kelvin (Lord) on the Dynamical Theory of Refraction, Dispersion and Anomalous Dispersion 546

- Kelvin's (Lord) Scientific Work, Prof. Oliver Lodge, 581  
 Kempf (Herr), a New Long Period Variable, 60  
 Kent (Saville), Position of Sponges in Animal Kingdom, 426  
 Kerner (Prof. Anton), Death of, 206; Obituary Notice of, Dr. Otto Stapf, 251  
 Kerr (Richard), Wireless Telegraphy, 495  
 Kew, Royal Gardens, Bulletin of Miscellaneous Information, 1897, 245  
 Keyes (C. R.), Eolian Origin of Loess, 634  
 Kimura (H.), the Variation of Latitude at Tokyo, 490  
 Kinematograph Films, the Manufacture of, 552  
 King (Sir George), Annals of the Royal Botanic Gardens, Calcutta, Vol. viii., the Orchids of the Sikkim Himalaya, 465  
 King (L. W.), First Steps in Assyrian, 341  
 Kingdon (J. A.), Applied Magnetism: an Introduction to the Design of Electro-Magnetic Apparatus, 591  
 Kingzett (C. T.), a Pocket Dictionary of Hygiene, 495  
 Kinsley (Carl), Series Dynamo Electric Machines, 72  
 Kipping (F. S.), Separation of Optical Isomerides, 23  
 Kirby (W. F.), Epidemics among Mice, 223  
 Kirchhoff's Spectroscope, Prof. H. C. Vogel, 19  
 Kirchner (Herr), Leprosy in Russia, 158  
 Kirstädter (F.), Magnetisation of Hollow and Solid Iron Rings, 187  
 Kite, a Propeller, Lawrence Hargrave, 312  
 Kite Flight, High, Record broken for, Messrs. Clayton and Ferguson, 513  
 Klebs (Prof.), Alternation of Generations in Thallophyta, 632  
 Klein (Dr. E., F.R.S.), the Etiology and Prevention of Malarial Fever, 175  
 Klein (Prof. Felix), the Mathematical Theory of the Top, Lectures delivered on the Occasion of the Sesquicentennial Celebration of Princeton University, 244  
 Knibbs (G. H.), Water-Flow in Uniform Pipes and Channels, 354  
 Knipp (C. T.), New Form of Make and Break, 92  
 Knight (W. C.), New Jurassic Vertebrates from Wyoming, 117  
 Knight-Darwin Law, the, Francis Darwin, F.R.S., 630  
 Knott (Prof. C. G.), Magnetic Strains, 190  
 Knuth (Dr. Paul), Handbuch der Blütenbiologie unter zugrundelegung von Hermann Müller's werk, "Die Befruchtung der Blumen durch Insekten," Francis Darwin, F.R.S., 434  
 Koch (Prof.), a Plague Centre in German East Africa, 254  
 Koettlitz (Dr. R.), Geology of Franz Josef Land, 239  
 Kohlrausch (F.), Conductivities of Electrolytes, 93  
 Kohnstamm (P.), the Weston Standard Cell, 335  
 Kölliker (Albert von), Prof. W. F. R. Weldon, F.R.S., 1  
 Kollmann (Dr. J.), Lehrbuch der Entwicklungsgeschichte des Menschen, 77  
 Kossel (Prof. A.), on Albumens, 481  
 Kozloff (P. K.), the Lob-Nor Controversy, 41  
 Krömsköp Colour Photography, Frederick Ives, 124  
 Kronecker (Prof.), on the Results of Further Investigation of the Respiration of the Heart of the Tortoise, 481  
 Kronfeld (Dr.), Silphium among the Ancient Greeks, 628  
 Kübler (Herr), Leprosy in Russia, 158  
 Kulczynski (Ladislao), *Araucaria hungarica*, 365  
 Küttner (Prof.), the Röntgen Rays in Surgery, 302  
 La Cour (Prof.), the Utilisation of Wind Power, 300  
 Labbé (H.), New Method of Separating Geraniol and Citronellol, 191  
 Acids of Essential Oils of Geranium, 240  
 Laboratories: the New Physical Research Laboratory at the Sorbonne, 12; on Laboratory Arts, Richard Threlfall, C. V. Boys, F.R.S., 145; the National Physical Laboratory, 548, 565; Opening of the Thompson-Yates Laboratories at University College, Liverpool, 575, 606; a Chemical Laboratory Course, A. F. Hogg, 592; New Physical Laboratory of Owens College, Manchester, 621  
 Ladd (G. T.), Outlines of Descriptive Psychology, 316  
 Lafar (Dr. Franz), the Utilisation of Micro-Organisms in the Arts and Manufactures: a Practical Handbook on Fermentation and Fermentative Processes, &c., 265  
 Lafouge (M. le Général), Essai synthétique sur la formation du Système Solaire, 342  
 Lagrange (C.), the Theory of Errors; a Theory of Recurring Means, 489  
 Lahmann's (Dr. H.) Natural Hygiene, 614  
 Lake Bassenthwaite, Rotifers in, Prof. Sydney J. Hickson, F.R.S., 200; W. T. Calmen, 271  
 Lake Mendota, Plankton Studies on, Dr. E. A. Birge, 259  
 Lake Minnewaska, N.Y., Blue Grotto on, Dr. H. C. Boltos, 525  
 Lake Tanganyika, the Marine Fauna in, and the Advisability of Further Exploration in the Great African Lakes, J. E. S. Moore, 404  
 Lake Urumiah, the Medusa of, Dr. Albert Günther, F.E.S., 319; the Jelly-fish of, R. T. Günther, 435  
 Lamb (Horace, F.R.S.), an Elementary Course of Infinitesimal Calculus, 292  
 Landolt (H.), Das optische Drehungsvermögen organischer Substanzen und dessen praktische Anwendung, 172  
 Lang (Mr.), Prothallus of *Lycopodium clavatum* discovered, 633  
 Langer (Dr.), the Immunity of Bee Keepers from Bee Poison, 18  
 Langley (Edward M.), Animals and Poisonous Plants, 597  
 Langley (Dr. J. N., F.R.S.), on the Discovery of the Possibility of obtaining an Experimental Union between the Nerve-fibres of the Vagus Nerve and the Sympathetic Nerve-cell of the Superior Cervical Ganglia, 482  
 Langlois (Prof.), Observations upon the Resistance of Diving Animals to Asphyxia, 485  
 Lankester (Prof. E. Ray, F.R.S.), a Text-Book of Zoology, Prof. T. Jeffery Parker, F.R.S., and Prof. W. A. Haswell, F.R.S., 25; Traité de Zoologie Concrète, Prof. Yves Delages and E. Hérouard, 25; a Student's Text-Book of Zoology, Adam Sedgwick, F.R.S., 147; the Scientific Memoirs of Thomas Henry Huxley, Vol. i., 613  
 Larden (W.), Solar Halos, 344  
 Larmor (Joseph, F.R.S.), the Complete Scheme of Electro-dynamic Equations of a Moving Material Medium, 166  
 Larvæ, Horn-Feeding, W. H. McCorquodale, 140, 546; Captain G. G. Traherne, R.A., 521  
 Larvæ in Antelope Horns, Dr. Henry Strachan, 468; W. H. McCorquodale, 468  
 Latitude Variation in a Rigid Earth, Prof. Henry Crew, 232  
 Latitude at Tokyo, the Variation of, H. Kimura, 490  
 Laurie (Dr.), on the Results obtained in Studying the Cooling Curves of Fatty Acids, 557  
 Laver (H.), the Mammals, Reptiles, and Fishes of Essex, 242  
 Le Chatelier (H.), Limit of Inflammability of Carbon Monoxide, 71; Electrical Resistance of Steel, 191; Influence of Tempering on Electrical Resistance of Steel, 216; Radiation of Incandescent Burners, 240  
 Lead-Boring Insects, Dr. L. O. Howard, 230  
 Leatham (F. G.), Possibility of deducing Magneto-Optic Phenomena from Direct Modification of Electro-Dynamic Energy Function, 142  
 Leavitt (R. G.), Psychrometer applicable to Study of Plant Transpiration, 187  
 Lebeau (P.), Industrial Treatment of Emerald in Electric Furnace, 23; Iodide of Beryllium, 47; a Boro-Carbide of Beryllium, 71; Anhydrous Beryllium Fluoride and Oxy-fluoride of Beryllium, 96  
 Lecornu (L.), Régularisation du Mouvement dans les Machines, 495  
 Ledue (A.), Error of M. Regnault in Determination of Specific Heat of Air at Constant Pressure, 240  
 Lee (Dr. F. S.), on the Fatigue of Muscle, 484  
 Leeds Astronomical Society, the, 160  
 Lees (Dr. C.), Increase of Thermal Conductivity of Sandstone by Pressure, 524; on the Thermal Conductivity of Rocks at Different Pressures, 532  
 Leger (L.), a New Coccus, *Echinospira ventricosa*, 516  
 Leidé (E.), Compounds of Rhodium, 287  
 Leidenfrost Drop, the, J. Stark, 335  
 Leist (M.), a Local Magnetic Pole at Katchétovka, 72, 86  
 Lemström (Prof. S.), on the Action of Electricity on Plants, 533  
 Lenard (P.), Behaviour of Kathode Rays Parallel to Electric Force, 491  
 Lenses, not of Glass, Mr. J. W. Gifford on, 532  
 Leonis, Parallaxes and Masses of  $\gamma$  Virginis and, Dr. Belopolsky, 400  
 Lepidoptera, Varieties of *Abraxas grossulariata*, Rev. J. Greene, 110; Drinking Habits of Butterflies and Moths, T. W. Tutt, 110; Individual Wing-Variation in Lepidoptera, W. L. W. Field, 524  
 Leprosy in the Far East, Distribution of, S. B. J. Skertchly, 514  
 Leprosy in Russia, MM. Kirchner and Kübler, 158

- Letts (Dr. E. A.), the Carbonic Anhydride of the Atmosphere, 464  
 Levy (Albert), Atmospheric Carbon Dioxide, 408  
 Lewis (Henry), W. J. L. Abbott, 16  
 Lexicon, a Maori-English, Rev. W. Colenso, 364  
 Life-history of the Salmon, the, 280  
 Light, Röntgen Rays and Ordinary, Prof. J. J. Thomson, F.R.S., 8  
 Light, a New Standard of, Ch. Féry, 23  
 Light-Mirrors, a Simple Method of Making, Prof. Charles B. Thwing, 571  
 Lightning Flash, Triplet, C. E. Stromeyer, 570  
 Lightning by Day, Photographing, F. H. Glew, 627  
 Lilienfeld (Dr. Leo), Synthesis of Albuminous Substances, 351  
 Lilienfeld's Synthesis, Dr. John W. Pickering, 468  
 Linacre Reports, the, 100  
 Lincei, Reale Accademia dei, Royal Prize Awards, 420  
 Lindgren (W.), Orthoclase as Gangue Mineral in Fissure Vein, 187  
 Lindner (P.), Das optische Drehungsvermögen organischer Substanzen und dessen praktische Anwendung, 172  
 Line of Sight, Motion of Stars in the, M. Deslandres, 490  
 Linnæan Society, 46, 141, 189, 215; Anniversary Meeting of the, 107  
 Lion-Tiger Hybrid, R. I. Pocock, 200  
 Lippmann (G.), Maintenance of Motion of Pendulum without Disturbance, 264  
 Liquid Air at One Operation, Lord Rayleigh, F.R.S., 199  
 Liquid Hydrogen, 55; Dr. W. Hampson, 77, 174, 246, 292; Prof. J. Dewar, F.R.S., 125, 199, 270, 319  
 Liquids, Absorption of, by Textiles, Leo Vignon, 264  
 Liquids, Method of Measuring Surface-Tension of, Dr. F. T. Trouton, F.R.S., 191  
 Lister (Lord), on Experimental Medicine, 606  
 Literature, a Request for Zoological, Prof. Blaxland Benham, 520  
 Literature and Scenery, Sir Archibald Geikie, 179  
 Literature, Scientific, Report of International Conference on, 623  
 Live Fish, the Transport of, D. O'Connor, 125  
 Liverpool Observatory, the, 134  
 Liverpool, University College, Opening of the Thompson-Yates Laboratories at, 575  
 Lvon (Prof.), Observations on the Action of Extract of the Pituitary Body upon the Function of the Vagus Nerve, 484  
 Lizard, the Blue-Tongued Tasmanian, as a Snake-Destroyer, Stuart Dove, 422  
 Lizard, the Development of the Tuatara, Prof. A. Dendy, 609; G. A. Boulenger, 619  
 Lloyd (Dr. R. J.), the Spirate Fricatives, 46; on the Articulation and Acoustics of the Spirate Fricative Consonants, 534  
 Lob-Nor Controversy, the, P. K. Kozloff, 41  
 Lockyer (Sir Norman, K.C.B., F.R.S.), on the Recent Solar Eclipse Expeditions, 534; a Short History of Scientific Instruction, 572, 597  
 Locust-Destroying Fungus, Dr. Edington, 354  
 Locusts, a Case of Inherited Instinct, Captain F. W. Hutton, F.R.S., 411  
 Lodge (Prof. Oliver, F.R.S.), Improvements in Magnetic Space-Telegraphy, 62; the Scientific Work of Lord Rayleigh, 461; New Magnifying Telephone, 533; Lord Kelvin's Scientific Work, 581  
 Loess, Eolian Origin of, C. R. Keyes, 634  
 Lohse (Dr.), Jupiter's Red Spot, 20  
 Londe (A.), Causes of Imperfections in Radiographs from Use of Reinforcing Screens, 168  
 London, Birds in, W. H. Hudson, 172  
 London Sewage, Bacteriology of, 374  
 London, the University of, Commission Bill, 154, 176  
 Longo (Dr. B.), Chromatolysis in Plants, 329  
 Lorenz (Prof. H. A.), Optical Phenomena depending on Electric Charge and Mass of Ions, 48, 144  
 Lories, Dr. St. G. Mivart, F.R.S., 189  
 Los Angeles, Experiments in the Utilisation of Wave-Power at, 207  
 Louis ((Prof.), on the Relation and Extension of the Franco-Belgian Coal-field to that of Kent and Somerset, 559  
 Love (A. E. H., F.R.S.), Theoretical Mechanics: an Introductory Treatise on the Principles of Dynamics, with Applications and Numerous Examples, 169; Fourier's Series, 569  
 Lovett (Prof. E. O.), the Infinitesimal Projective Transformations of Concentric Conics, 431  
 Lowry (T. M.), Stereoisomeric Derivatives of Camphor, 142  
 Isodynamic Forms of Nitro Camphor, 238  
 Lubbock (Sir John), Opening Address at the International Congress of Zoology, 391  
 Lucifer Matches, Phosphorus in, 345  
 Lucy (W. C.), Death of, 57  
 Lumière (M.), Action of Ammonium Persulphate on Silver in Photographic Negatives, 168  
 Luminosity of Gases in Vacuum Tubes, 463  
 Luminous Clouds, Arthur P. Jenkin, 521  
 Luminous Clouds or Aurora, J. Edmund Clark, 546  
 Lundbohm (H.), the Iron Ore Deposits of Swedish Lapland, 430  
 Lungs, the Diseases of the, James Kingston Fowler and Rickman J. Godlee, 291  
 Lupton (Sydney), Notes on Observations, 7  
 Lush (Ethel R.), Lessons in Domestic Science, 173  
 Lusk (Prof. Graham), on the Administration of Phlorhizin to Starving Dogs, 486  
 Lutz (L.), Nitrogenous Nutrition of Phanerogamous Plants, 24  
 Lymph Production, on the Theory of, Dr. L. Asher, 481  
 Mabile (Dr.), on the Action of Arsenic upon the Intoxication produced by Ingestion of the Thyroid Body, 484  
 Macallum (Prof. A. B.), on his Method for Detection and Localisation of Phosphorus in Animal and Vegetal Cells, 483  
 Macaluso (D.), New Action of Light traversing Metallic Vapours in Magnetic Field, 635  
 MacBride (Prof.), Origin of Echinoderms, 427  
 McClellan (J. A.), Figures produced on Photographic Plate by Electric Discharges, 142  
 McClintock (Emory), Further Researches in Theory of Quintic Equations, 22  
 McClure (Dr. C.), a Bacillus in Milk, 254  
 McCorquodale (W. H.), Horn-Feeding Larvæ, 140; Larvæ in Antelope Horns, 468; Maggots in Sheep's Horns, 546  
 Macdonald (Dr. J. S.), on the Electromotive Changes in the Phrenic Nerve, 483  
 MacDowall (A. B.), Summer Rainfall, 237; the Weather of this Summer, 247  
 McGee (W. J.), Papagueria, 525  
 Mach (Herr), the Phenomena of Air Waves formed by Projectiles, studied by means of Interference Bands, 422  
 Mack (E.), Melting Points of Substances under High Pressure, 432  
 Machine Drawing, Thomas Jones and T. Gilbert Jones, 543  
 Machines, Régularisation du Mouvement dans les, L. Lecornu, 495  
 McIntosh (Prof. W. C.), the Memory of Fishes, 422  
 Mackenzie (Dr. W. Leslie), Studies in Psychical Research, Frank Podmore, 5  
 Mackerel, on the Races and Migrations of the, W. Garstang, 584; H. N. Dickson, 584  
 Macpherson (Rev. H. A.), the Life-Work of William Turner, 398  
 McWeeney (Dr.), the Sero-Diagnostic Test for Typhoid Fever, 47  
 Madagascar, Destruction of the French Observatory in, E. Colin, 259  
 Madan (H. G.), Properties of Methylene Di-iodide, 23; Ebbing and Flowing Well at Newton Nottage, 45; Organic Substances available for Mounting Microscopical Specimens, 94  
 Madras, Anthropology in, Edgar Thurston, 82  
 Madrid, Meteorological Observations at, 1860-94, F. Cos, 230  
 Maggots in Sheep's Horns, W. H. McCorquodale, 546  
 Magnetism: Improvements in Magnetic Space-Telegraphy, Prof. O. Lodge, F.R.S., 62; a Local Magnetic Pole at Kótché-tovka, M. Leist, 72, 86; Magnetism and Sun-spots, William Ellis, F.R.S., 78; Magnetism and Meteorology, Prof. F. H. Bigelow, 86; Solar and Terrestrial Magnetism in Relation to Meteorology, F. H. Bigelow, 187; Temperature Co-efficient of certain Seasoned Hard Steel Magnets, Arthur Durward, 92; Properties of Seasoned Magnets of Self-hardening Steel, B. O. Peirce, 117; New Method of Measuring Dip and Horizontal Intensity, G. Meyer, 117; Possibility of Deducing Magneto-Optic Phenomena from Direct Modification of Electro-Dynamic Energy Function, J. G. Leatham, 142; Magnetic After-Effect, C. Fromme, 187; Magnetisation of



- Hollow and Solid Iron Rings, F. Kirstädter, 187; Magnetic Strains, Prof. C. G. Knott, 190; First Stage Magnetism and Electricity, R. H. Jude, 222; an Introductory Course of Practical Magnetism and Electricity, J. Reginald Ashworth, 466; Magnetic Storm, Dr. Charles Chree, F.R.S., 468; International Conference of Terrestrial Magnetism and Atmospheric Electricity, Opening Address, by Prof. A. W. Rücker, Sec. R.S. President of the Conference, 473; Applied Magnetism: an Introduction to the Design of Electro-Magnetic Apparatus, J. A. Kingdon, 591; the Energy of a Magnetic Field, H. Pellat, 612; Magnets and Electric Currents, Prof. J. A. Fleming, 614; New Action of Light Traversing Metallic Vapours in Magnetic Field, D. Macaluso and O. M. Corbino, 635
- Magnitudes, Stellar, Constant of Aberration and, Prof. Doberck, 258
- Magnus (Sir Philip), Technical High Schools, a Comparison, 52
- Magnus (Dr. R.), on the Reaction of the Pupil of the Isolated Eel's Eye under Various Homogeneous Lights, 485
- Maiden (J. H.), Botanical Exploration of Mt. Kosciuszko, 551
- Maige (M.), Influence of Light on Wild Grape and Ground Ivy, 516
- Major (Colonel F. W.), a Living Toad in a Snake, 344
- Makaroff (Admiral), Suggested "Ice-breaker" Expedition to North Pole, 353
- Malaria Parasite, the Mosquito the Host of, Surgeon-Major Ronald Ross, 523
- Malarial Fever, the Etiology and Prevention of, Dr. E. Klein, F.R.S., 175
- Malcolm (Dr.), Metabolism of Nucleins, 239
- Mallet (F. R.), Ebbing and Flowing Wells, 104
- Mammalian Heart, on the, Prof. Townsend Porter, 482
- Mammals, the Origin of, Prof. Seeley, 426; Prof. Osborn, 426; Prof. Marsh, 427; A. Sedgwick, 427; Prof. Hübner, 427
- Mammals, Reptiles and Fishes of Essex, the, H. Laver, 242
- Mammals of the United States, the Destruction of the Birds and, William T. Hornaday, 308
- Mammifer, a New, M. Ameghino, 492
- Man, the Descent of, Prof. Haeckel, 427
- Man, the Study of, Alfred C. Haddon, 410
- Manchester Literary and Philosophical Society, 46, 635
- Manchester, New Physical Laboratory of Owens College, 621
- Manganese from Bog Iron Ore, 256
- Mangin (Louis), Pietine in Wheat, 359
- Manila, the Weather of, Prof. Hazen, 526
- Manson (Dr. Marsden), on the Laws of Climatic Evolution, 559
- Manual Training: Woodwork, a Handbook for Teachers, Geo. Ricks, 124
- Maori English Lexicon, a, Rev. W. Colenso, 364
- Marage (M.), Study of Speaking Voice by Phonograph, 23
- Margules (M.), Electrolytic Solution of Platinum and Gold, 491
- Marine Biology: Food-reception by Sponges, Dr. Vosmaer and Prof. Pechelharng, 47; the Phyto-Plankton of the Atlantic, George Murray, F.R.S., and V. H. Blackman, 70; Relations between Hybrid and Parent Forms of Echinoid Larvae, H. M. Vernon, 118; Annual Meeting of Marine Biological Association, 228; the *Xenidae*, J. H. Ashworth, 335; the Building of Atolls, Stanley Gardiner, 425; Position of Sponges in Animal Kingdom, Prof. Yves Delage, 425; E. A. Minchin, 426; Saville Kent, 426; Origin of Echinoderms, Prof. MacBride, 427; Flying Entomostraca, Herr Ostrovomov, 513; Arboreal Organs of Holothuria, L. Bordsas, 635
- Marine Fauna in Lake Tanganyika, and the Advisability of further Exploration in the Great African Lakes, J. E. S. Moore, 404
- Marinelli (Prof.), Progressive Increase of Po Delta, 353
- Markham (Sir Clements R., F.R.S.), Vasco Da Gama, 67
- Marquette Iron-bearing District of Michigan, the, C. R. van Hise and W. S. Bayley, 82
- Mars in 1896-7, Prof. V. Cerulli, 304
- Mars, the Planet between the Earth and, Herr G. Witt, 526
- Marsh (Prof. O. C.), on the Comparative Value of Different Kinds of Fossils in Determining Geological Age, 558
- Marshall (G. A. K.), *Precis octavia-natalensis* and *P. Sesamus* Seasonal Forms of same Species, 611
- Marsupialia, Thymus and Thyroid Glands in, J. Johnstone, 46
- Martin (Dr. Sidney), Effect of Polluted Soil on Vitality of Typhoid Bacillus, 577
- Martyn (A. J. K.), a Monochromatic Rainbow, 224
- Maryland Geological Survey, 29
- Mascart (Jean), Planet 1898 DQ, 432
- Maskell (W. M.), Death of, 108
- Massee (George), the "Slime-Flux" Disease of Fruit Trees, 133; Mykologische Untersuchungen aus den Tropen (Mycological Researches in the Tropics), Dr. Carl Holtermann, 590
- Masterman (Dr. A. T.), Anatomy of *Cephalodiscus dodecalophus*, 190
- Match Manufactories, French, Dr. T. Oliver, 327
- Matches, Phosphorus in Lucifer, 345
- Mathematics: American Journal of Mathematics, 22; Focal Surfaces of Congruences of Tangents to given Surface, A. Pell, 22; Further Researches in Theory of Quintic Equations, Emory McClintock, 22; Mathematical Society, 23, 95, 190; the Collected Mathematical Papers of Arthur Cayley, F.R.S., 50; Instruments for Describing Cycloidal Curves and Envelopes, Prof. Hele-Shaw, 61; Bulletin of American Mathematical Society, 92, 187, 310, 431; Connection of Algebraic with Automorphic Functions, E. T. Whittaker, 93; Ludwig Otto Hesse's Gesammelte Werke, herausgegeben von der Mathematisch-Physikalischen Classe der Königlich Bayerischen Akademie der Wissenschaften, 124; Death of Rev. Percival Frost, F.R.S., 131; Edinburgh Mathematical Society, 167, 191; an Obsolete Book of Euclid on Balances and the Lever, Dr. G. Vailati, 207; Mathematical Theory of the Top, Lectures Delivered on the Occasion of the Sesquicentennial Celebration of Princeton University, Prof. Felix Klein, 244; the Mathematical Gazette, 263; Leçons sur l'Intégration des Equations aux dérivées partielles du second ordre à deux Variables Indépendantes, E. Goursat, 266; Memoirs of Novorossian Society, 286; on Finding Log Lines and Log Tangents of Small Arcs, W. James Burgess, 336; Mathematical Contributions to Theory of Evolution, V., Reconstruction of Stature of Prehistoric Races, Karl Pearson, F.R.S., 286; an Elementary Course of Infinitesimal Calculus, Horace Lamb, F.R.S., 292; Example of Single-valued Function with Natural Boundary, whose Inverse is also Single-valued, Prof. Osgood, 310; Poisson's Integral, Prof. Böcher, 310; Polynomials of Stieltjes, Prof. van Vleck, 310; Is Continuity of Space necessary to Euclid's Geometry? W. M. Strong, 310; Elementary Conics, Dr. W. H. Besant, 318; Examples in Analytical Conics for Beginners, W. M. Baker, 318; a Treatise on Universal Algebra, with Applications, Alfred North Whitehead, 385; Structure of Hypoabelian Groups, Dr. L. E. Dickson, 431; the Hamilton Groups, Dr. G. A. Miller, 431; the Infinitesimal and Projective Transformation, Prof. E. O. Lovett, 431; Infinitesimal Transformations of Concentric Conics, Prof. E. O. Lovett, 431; a Theory of Recurring Means, C. Lagrange, 489; Mathematical Examination Papers for Use in Navy Classes in Schools, Rev. J. L. Robinson, 568; Properties of Gauche Curves, F. Deruyts, 604; Steiner's Surfaces, Prof. Brambilla, 627
- Mather (T.), Galvanometers, 93
- Mathews (R. H.), Australian Divisional Systems, 312
- Matruchot (M.), a New Trichophyton productive of Herpes in Horse, 359
- Matter, Potential, Prof. A. Schuster, F.R.S., 618
- Matteucci (Prof.), Volcanic Flames, 303
- Matthews (F. E.), Derivatives of Benzophenone, 23
- Maubeuge (H. de), the Green Ray at Sunrise, 564
- Mauder (Mrs.), on the Recent Solar Eclipse Expeditions, 533
- Maxwell (James Clerk) and Modern Physics, R. T. Glazebrook, F.R.S., Prof. A. Gray, F.R.S., 219
- Mechanical Engineering: Experiments on the Working of Gas Engines, F. W. Burstall, 21; the Mechanical Engineer's Handy Office Companion, Robert Edwards, 318
- Mechanics: a Course in Mechanical Drawing, John S. Reid, 8; Experimental Mechanics, G. H. Wyatt, 101; Theoretical Mechanics, an Introductory Treatise on the Principles of Dynamics, with Applications and Numerous Examples, A. E. H. Love, F.R.S., Prof. A. G. Greenhill, F.R.S., 169; Maintenance of Motion of Pendulum without Disturbance, G. Lippmann, 264; Principles of Mechanism: a Treatise on the Modification of Motion by Means of the Elementary Combinations of Mechanism, or the Parts of Machines for Use in College Classes by Mechanical Engineers, &c., S. W. Robinson, 268; Mode of Supporting Motion of Pendulum, A. Guillet, 287; the Utilisation of Wind Power, Prof. La Cour, 300; Apparatus for Representing Resultant of Two Pendulum Oscillations in same Straight Line, Prof. A. Righi, 488

- Medals, Treatment of the Surface of, Prof. Roberts-Austen, F.R.S., 236
- Medwedew (Dr.), Studies concerning the Oxidation of Salicyl Aldehyde in Tissue-Extracts, 484
- Medicine: Death of Dr. Samuel Gordon, 16; City Banquet to the Medical Profession, 37; Annual Meeting of British Institute of Preventive Medicine, 206; Transactions of, 339; Medical Missions in their Relation to Oxford, Sir Henry W. Acland, K.C.B., F.R.S., 222; Folk-Medicine in Ancient India, Dr. M. Winternitz, 233; Masters of Medicine: William Stokes, his Life and Work, 1804-1878, Sir William Stokes, 245; Ingredients of Chinese Herbal Prescription, J. B. Davy, 255; Rt. Hon. Arthur Balfour on the Medical Profession and its Work, 277; Meeting of the British Medical Association, Dr. F. W. Tunncliffe, 349; Death of Dr. William Pepper, 372; Obituary Notice of, 420; Clinical Value of Agglutination of Koch's Bacillus of Human Serum, S. Arloing and Paul Courmont, 540; Recent Advances in Science and their Bearing on Medicine and Surgery, Prof. R. Virchow, For. Member R.S., 554; the Opening Addresses at the Medical Schools, F. W. Tunncliffe, 576; the Present Position of the Medical Profession, Mr. Turner, 577; the Sale of Poisons, Sir J. C. Browne, 577; Death of Dr. Müller, 625; the Harveian Oration, Sir Dyce Duckworth, 602; Lord Lister on Experimental Medicine, 606
- Medusa of Lake Urumiah, the, Dr. Albert Günther, F.R.S., 319
- Mehner (Dr. E.), Biomechanik erschlossen aus dem Principe der Organogenese, 591
- Meinardus (Dr. W.), Meteorological Relations between North Atlantic and Europe in Winter, 131
- Meldola (Prof. R., F.R.S.), Essays on Museums and other Subjects connected with Natural History, Sir William Henry Flower, K.C.B., 217
- Melloni Thermo-Pile, Improvements on, Prof. H. Rubens, 39
- Melos, the Phylakopi Excavations, Mr. Hogarth, 627
- Memoirs of Caucasian Branch of Russian Geographical Society, 539
- Memoirs of Novorossian Society of Naturalists, 285
- Memoirs of St. Petersburg Society of Naturalists, 491
- Mendota, Lake, Plankton Studies on, Dr. E. A. Birge, 259
- Menschen, Lehrbuch der Entwicklungsgeschichte des, Dr. J. Kollmann, 77
- Mercalli (Prof. G.), Calabro-Messinese Earthquakes, 329
- Mercier (M.), Improvement of Over-Exposed Negatives, 120
- Merrifield (F.), Colouring of Pupæ of *Papilio machaon* and *P. napi* derived from Surroundings, 611
- Mesopotamia, the American Excavations in, J. P. Peters, 243
- Metal, Cooled, Transference of Heat in, Henry Bourget, 200, 521; Albert T. Bartlett, 411; John Stone Stone, 596
- Metal Work, Cast, from Benin, 224
- Metals and Alloys, Surfusions of, Prof. W. C. Roberts-Austen, F.R.S., 619
- Metallurgy: Method of Demonstrating Allotropic Change in Iron, A. Stansfield, 62; on Evaporation of Iron at Ordinary Temperature, H. Pellatt, 71; Methods for the Analysis of Ores, Iron and Steel, in Use at the Laboratories of Iron and Steel Works in the Region about Pittsburg, Pa., John Parry, 149; Manganese from Bog Iron Ore, 256; Corundum in Ontario, 256; the Electrical Resistance and Micro-Structure of Alloys, Saville Shaw, 356; Iron and Steel Institute, 430; the Swedish Iron Industry, R. Akerman, 430; Swedish Iron Ore Mining, Prof. G. Nordenström, 430; the Iron Ore Deposits of Swedish Lapland, H. Lundbohm, 430
- Metargon, Prof. James Dewar, F.R.S., 319
- Metargon and the Interplanetary Medium, J. R. Rydberg, 319
- Metargon, the Spectrum of, Prof. Arthur Schuster, F.R.S., 199, 269; Prof. W. Ramsay, F.R.S., M. W. Travers, and Edward C. Cyril Baly, 245
- Metaphysics of Experience, the, Shadworth H. Hodgson, 517
- Meteorology: Thunderstorms in Netherlands, 17; Climate of Paris, J. Jaubert, 22; Forty Years' Observations at Camden Square, 22, 117, 237, 311, 491, 539; Symons's Monthly Meteorological Magazine, 22, 117, 237, 310, 491, 539; Die Wettervorhersage, Prof. Dr. W. J. van Bebbel, 28; Future Rainfall, 30; Rainfall of Great Britain for First Quarter of 1898, 40; Heavy Rainfalls, C. Driehberg, 78; Frequency of Rainy Days in British Islands, R. H. Scott, F.R.S., 95; Rainfall and Earthquake Periods, Prof. J. P. O'Reilly, 103; the Abnormal Rainfall of December 1897 in Ceylon, H. Parker, 132; Summer Rainfall, A. B. MacDowall, 237; Rainfall for United Kingdom, April-June 1898, 353; Symons's British Rainfall 1897, G. J. Symons, F.R.S., and H. Sowerby Wallis, 389; Sunshine at Eastbourne, 40; Catania Soil-Temperature Observations, Dr. Tringali, 40; Diurnal Changes in Temperature and Humidity at Different Heights in the Air, H. H. Clayton, 59; Cloud-Production by Ultra-Violet Light, C. T. R. Wilson, 62; Meteorology and Magnetism, Prof. F. H. Bigelow, 86; Solar and Terrestrial Magnetism in relation to, F. H. Bigelow, 187; the Abnormal Weather of January 1898, F. J. Brodie, 95; Meteorological Society, 95, 190; Search Lights and Weather Signals, 109; Climate of Algeria, Dr. A. Thevenet, 117; Barisal Guns, Dr. A. Cancani, 130; Prof. C. Abbe, 353; Death of Henry Perigal, 131; Meteorological Relations between North Atlantic and Europe in Winter, Dr. W. Meinardus, 131; a High Rainbow, Prof. Sidney T. Moreland, 151; Prof. F. J. Allen, 175; a Monochromatic Rainbow, A. J. K. Martyn, 224; Pilot Chart of North Atlantic for June, 178; for August, 399; Mean Atmospheric Pressure and Temperature of the British Islands, Dr. Buchan, 178; Severe Storm off North-west Australia, W. E. Cooke, 178; Australasian Weather Charts and New Zealand Storms, Major-General Schaw, 582; Non-instrumental Phenomena in London, 1763-1897, R. C. Mossman, 190; Free-Air Exploration by Kites, A. L. Rotch, 190; the Use of Kites and Balloons in Meteorology, 382; Record Broken for High Kite Flight, Messrs. Clayton and Ferguson, 513; Kew Experiments on Aneroid Barometers, Dr. Chree, F.R.S., 215; Weather Lore, Richard Inwards, 222; Remarkable Hailstones, Samuel N. Player, 223; the Weather of this Summer, Alex. B. MacDowall, 247; High (August) Shade Temperatures, 373; the Hot (August) Weather, 397; the Weather for last Week of August, 421; Meteorological Observations at Madrid, 1860-94, F. Cor, 230; the Climate of Cuba, Dr. Phillips, 256; the Weather of Manila, Prof. Hazen, 256; Summer and Winter in relation to the Sun-spot Cycle, 270; Curious Phenomena, N. W. Thomas, 294; the Ben Nevis Observatories, 298, 350; Variations of Air-Temperature in Cyclones, Rev. M. Dechevrens, 301; Cumulus Cloud-Formation over Fire, R. de C. Ward, 328; Mineral Hail in Russian Poland, M. Czernik, 352; Balloon-Shaped Cloud, F. F. Payne, 353; Dogmatism on the Moon and the Weather, 368; the "Cold Days" of May, Dr. R. Hennig, 374; Iridescent Clouds, E. Armitage, 390; Registering Solar Radiometer, G. S. Isham, 432; Aurora, C. E. Stromeyer, 460; the Aurora of September 9, 490; Hon. Rollo Russell, 496; Baron N. Kaulbars, 569; an Aurora Borealis, H. Deslandres, 516; the Altitude of the Aurora Borealis, Prof. C. Abbe, 603; Magnetic Storm, Dr. Charles Chree, F.R.S., 468; British Local Publications, 491; Disastrous Hurricane in Windward Islands, 512; Meteorological Statistics of, H. Powell, 551; Meteorological Observations at Rousden Observatory, Sir Cuthbert Peek, 514; Luminous Clouds, Arthur P. Jenkin, 521; Luminous Clouds or Aurora, J. Edmund Clark, 546; Report of U.S. Weather Bureau for 1896-7, 523; Meteorological Photography, Mr. Clayden, 534; the Green Ray at Sunrise, H. de Maubeuge, 564
- Meteorite, Fall of a, in Bosnia, 375
- Meteorites, a Fine Collection of, 232
- Meteorites: Northward over the "Great Ice," a Narrative of Life and Work along the Shores and upon the Interior Ice-Cap of Northern Greenland in the Years 1886 and 1891-1897, with a Description of the Little Tribe of Smith Sound Eskimos, the most Northerly Human Beings in the World, and an Account of the Discovery and bringing Home of the "Saviksue" or Great Cape York Meteorites, Robert E. Peary; Dr. Hugh Robert Mill, 589
- Meteors: the Meteor Shower of November 13, 1897, 210; August Meteors, 330, 490; the Recent Perseid Meteoric Shower, W. F. Denning, 371; Minor Meteoric Radiants, W. F. Denning, 424; the Dynamical Explanation of certain Observed Phenomena of Meteor Streams, Dr. Johnstone Stoney, 535; Large Meteors in 1897-1898, W. F. Denning, 583; Remarkable Meteor at Ontario, F. F. Payne, 604; Curious Meteor (?), 626
- Methylene Blue, on the Use of, as a Means of Investigating Respiration in Plants, Prof. J. B. Farmer, 185, 215
- Metric System; our Weights and Measures, a Practical Treatise on the Standard Weights and Measures in Use in the British Empire, with some Account of the, H. Chaney, 268
- Metzner (R.), Atomic Weight of Tellurium, 191; Use of Copper Selenate in Making Selenic Acid, 264

- Meunier (J.), Mixture of Marsh Gas and Air not Exploded by  
Glowing Filament of Incandescent Lamp, 635
- Meyer (G.), New Method of Measuring Dip and Horizontal  
Intensity, 117
- Meyer (Dr. H. W.) and Adenoid Growths, 625
- Meyer's (Max) Theory of Audition, 166
- Miall (Prof. L. C., F.R.S.), a Yorkshire Moor, 377, 401
- Mice, Epidemics among, W. F. Kirby, 223
- Michelson (Prof.), a New Form of Grating Spectroscope, 280
- Michelson (Prof. Albert A.), Fourier's Series, 544
- Micro-Biology as Applied to Hygiene, 15
- Micrometers, Interference Fringes applied to Study of, Maurice  
Hamy, 216
- Micro-Organisms, the Utilisation of, in the Arts and Manu-  
factures, Dr. Franz Lafar, 265
- Micro-Structure of Alloys, the Electrical Resistance and,  
Saville Shaw, 356
- Microscopy: Organic Substances available for Mounting Specimens,  
H. G. Madan, 94; Microscopical Society, 94, 188,  
311; Two Old Microscopes, 311; a Modified Camera  
Lucida, Frederick Ives, 311; a Monochromatic Green  
Screen, Frederick Ives, 311; New Method of Preserving  
Rotifers, C. F. Rousselet, 425; Microscopic Observations of  
Coherers, L. Arons, 491
- Migula (Prof. W.), System der Bakterien, 97
- Mile, Roman, Precise Length of, Antonio Blasquez, 109
- Milk and Butter, the Adulteration of, R. H. Wallace, 133
- Milk, a Bacillus in, Dr. C. McClure, 254
- Milky Sea, a White or, Dan Pidgeon, 520
- Milky Way, Drawings of the, 490
- Mill (Dr. Hugh Robert), Five Years in Siam from 1891 to  
1896, H. Warington Smyth, 322; the Geography of the  
United States, Henry Gannett, 497; on the Prospects of  
Antarctic Research, 587: Northward over the "Great Ice,"  
Robert E. Peary, 589
- Miller (Dr. G. A.), the Hamilton Groups, 431
- Millet, Alimentary Value of, M. Ballard, 336
- Milne (Prof.), Seismology, 534; Earthquake recorded in Isle  
of Wight, June 29, 1898, 228
- Milner (S. R.), On the Thermal Conductivity of Water, 532
- Milroy (Dr. T. H.), Modern Physiology from the Chemical  
Standpoint, 73
- Milroy (Dr.), Metabolism of Nucleins, 239
- Mimicry and Warning Colours, F. Finn, 58, 279
- Mimicry, Protective, J. Castets, S.J., Prof. E. B. Poulton,  
F.R.S., 223
- Minakata (Kumagusu), Notes on the Bugonia-Superstitions—  
the Occurrence of *Eristalis tenax* in India, 101; the Centipede-  
Whale, 570
- Minchin (E. A.), Position of Sponges in Animal Kingdom, 426
- Mineralogy: Prospecting for Minerals, S. Herbert Cox, 7;  
Rhodolite, W. E. Hidden, 92; a New Dilatometer, A. E.  
Tutton, 118, 311; a Description of Minerals of Commercial  
Value, D. M. Barringer, 124; Introduzione allo Studio dei  
Silicati, Dr. E. Ricci, 268; Analysis of Cornish Chalco-  
pyllite, E. G. J. Hartley, 311; a Possible Dimorphous  
Form of Laurionite, G. F. H. Smith, 311; Mineralogical  
Society, 311; Origin of Corundum associated with Perido-  
tites in North Carolina, J. H. Pratt, 335; Death of N. A.  
Pomel, 396; Vanadium and Molybdenum in United States,  
W. F. Hillebrand, 539; Death of Prof. Andrea Arzruni, 603
- Mining: Prospecting for Minerals, S. Herbert Cox, 7; the  
Causes of the Snaefell Lead Mine Accident, Dr. Le Neve  
Foster, F.R.S., 178; Mining Accidents in 1897, Dr. Le  
N. Foster, 461
- Minor Planets, John K. Rees, 304
- Mirage on City Pavements, R. W. Wood, 596
- Mirages, Wall, C. T. Whitnell, 619
- Mirrors, Metal-backed Glass, of Antiquity, D. Berthelot, 359
- Mirrors, a Simple Method of Making Light, Prof. Charles B.  
Thwing, 571
- Missouri Botanical Garden, Ninth Annual Report, 77
- Mivart (Dr. St. George, F.R.S.), Lories, 189; Moral Sense  
and Ethic, 294
- Mixer (W. G.), Electrosynthesis, 539
- Mohegan Wreck, the, and a Suggested Possible Local Deviation  
of Ship's Compass, Prof. A. W. Rücker, 629
- Moissan (Henri), the Preparation of Crystallised Calcium, 209;  
Behaviour of Calcium heated in Hydrogen, 257; Analysis of  
Commercial Calcium Carbide, 588; Calcium Nitride, 612
- Moki Indians, Aspects of Sun Worship among the, 295
- Mollusca: the Value of a Right-handed "Chank" Shell, Edgar  
Thurston, 627
- Monachus tropicalis*, the West Indian Seal, 179
- Monaco (Albert, Prince of), some Results of my Researches on  
Oceanography, 200
- Monium, Sir William Crookes, F.R.S., 438, 556
- Moniz (J. M.), Death of, 372
- Monochromatic Rainbow, a, A. J. K. Martyn, 224
- Montemartini (Dr. L.), Fisiologia Vegetale, 100
- Moody (G. T.), Preparation of Standard Acid Solution by  
Direct Absorption of Hydrogen Chloride, 238
- Moon, the, and Aurora, Prof. H. A. Hazen, 304
- Moon and the Weather, Dogmatism on the, 368
- Moon's Course, the, Sir Samuel Wilks, Bart., F.R.S., 496;  
J. Hughes Hemming, 545; E. L. Garbett, 571
- Mooney (James), the Ghost-Dance Religion and the Sioux Out-  
break of 1890, 125
- Moor, a Yorkshire, Prof. L. C. Miall, F.R.S., 377, 401
- Moore (J. E.), Electrical Discharge from Kinetic Point of View,  
335
- Moore (J. E. S.), the Marine Fauna in Lake Tanganyika, and  
the Advisability of Further Exploration in the Great African  
Lakes, 404
- Moral Instinct, the Origin and Growth of the, Alexander  
Sutherland, 241
- Moral Sense and Ethic, Dr. St. George Mivart, F.R.S., 294
- Morality Independent of Obligation or Sanction, M. Guyau, 567
- Morbology: the Sero-Diagnostic Test for Typhoid Fever, Dr.  
McWeeney, 47; Immunity of Arabs against Typhoid Fever,  
M. Vincent, 86; Effect of Polluted Soil on Vitality of  
Typhoid Bacillus, Dr. Sidney Martin, 577; the Plague in  
Calcutta and Dr. Haffkine's Method, 85; Formation in  
Blood Serum, under Chemical Action, of Material coagu-  
lating Bacilli of Tuberculosis, S. Arloing, 143; the Con-  
tagious Character of Tuberculosis, 487; Leprosy in Russia,  
M. Kirchner and Kübler, 158; Distribution of Leprosy in  
the Far East, S. B. J. Skertchly, 514; the Etiology and  
Prevention of Malarial Fever, Dr. E. Klein, F.R.S., 175; a  
Plague Centre in German East Africa, Prof. Koch, 254; the  
Hematozoa of Goitre, E. Grosset, 264; the Diseases of the  
Lungs, James Kingston Fowler and Rickman J. Godlee, 291;  
Rabies in Prussia, 300; Thermo-genesis in Tetanus, M.M.  
D'Arsonval and Charrin, 336; Clinical Varieties of Hepatic  
Cirrhosis, Dr. Alexander James, 349; Influence of Micro-  
Organisms on Diseases of Nervous System, Dr. Buzzard, 350;  
the Tsetse Disease in Mammals, Prof. Kanthack and Mr.  
Durham, 426; Rats and the Plague, Dr. F. G. Clemow,  
551; the Mosquito the Host of Malaria Parasite, Surg. Maj.  
Ronald Ross, 523
- Morel (Albert), Preparation of Mixed Carbonic Ethers, 240
- Moreland (Prof. Sidney T.), a High Rainbow, 151
- Morgan (Prof. C. Lloyd), Animal Intelligence: an Experi-  
mental Study of the Associative Processes in Animals, Edward  
L. Thorndike, 249, 390; on Animal Intelligence, 585
- Morgan (G. T.), Action of Formaldehyde on Naphthalene  
Amines, I., 142
- Morize (H.), Duration of Emission of Röntgen Rays, 635
- Morphology: System der Bakterien, Prof. W. Migula,  
Prof. A. A. Kanthack, 97; the Blood, how to Examine and  
Diagnose its Diseases, Alfred C. Coles, 269; Morphology of  
Vertebrates, Dr. Robert Wiedersheim, W. N. Parker, 409
- Morrell (Dr.), on the Oxidation of Glucose, 557
- Morris (Dr. D.), Sources of India-Rubber and Gutta-Percha, 514
- Moss: Prothallus of *Lycopodium clavatum* Discovered, Mr.  
Lang, 633
- Moss (R. T.), Apparatus for Drying Bodies in Vacuo, 191
- Mosso (Prof.), Mountain Sickness, 481
- Mossman (R. C.), Non-instrumental Meteorological Phenomena  
in London, 1763-1897, 190
- Mortillet (Gabriel de), Death of, 522; Obituary Notice of, 550
- Morton (G. H.), Carboniferous Limestone of Country round  
Llandudno, 71
- Motion of Stars in the Line of Sight, M. Deslandres, 490
- Mott (Dr. F. W., F.R.S.), on the Influence of Cholin, Neurine,  
and some Allied Substances upon the Arterial Blood-pressure,  
483
- Mouneyrat (A.), Action of Aluminium Chloride and Chlorine  
on Anhydrous Chloral, 120; Chlorination of Acetylene, 216;  
Brominating Action of Aluminium Bromide in Fatty Series,  
287; Action of Bromine on Normal Propyl Bromide in  
Presence of Anhydrous Aluminium Bromide, 359



- Mount Kosciuszko, Botanical Exploration of, J. H. Maiden, 551  
 Mountain Sickness, Prof. Mosso, 481  
 Mountaineering : Ascent of Yllimani, Sir W. M. Conway, 513 ; Attempts to Climb Mount Sorata, Sir Martin Conway, 626  
 Mourello (J. R.), Composition of Phosphorescent Sulphide of Strontium, 336, 432  
 Moureu (Ch.), Hydrolysis of Ethane-dipyrrocatechin, 359 ; Monopyrrocatechin Glyoxal, 384  
 Mourlot (A.), Anhydrous Crystallised Magnesium Sulphide, 312 ; Crystallisation of Anhydrous Sulphides of Calcium and Strontium, 516  
 Movement imparted by Tactile Impression, the Effect of, 588  
 Mud Volcanoes, Petroliferous Sands and, in Burma, Dr. Fritz Noetting, 20  
 Mushketoff (Prof.), Glaciers of Russia in 1896, 256  
 Müller (Dr.), Death of, 625  
 Müller (Herr), a New Long Period Variable, 60  
 Muller (Prof. F.), Death of, 108  
 Muller (J. A.), Synthetic Preparation of Potassium Carbonyl-Ferrocyanide, 96  
 Munroe (John), a Trip to Venus, 366  
 Munthe (H.), the Interglacial Submergence of Great Britain, 374  
 Murani (Prof. O.), Stationary Hertzian Waves as studied with Use of Coherer, 552  
 Murché (Vincent T.), Domestic Science Readers, 8  
 Murray (George), the Phyto-Plankton of the Atlantic, 70  
 Murray (Sir John), Plea for a British Antarctic Expedition, 604  
 Museums Committee Report, 16  
 Museums, Essays on, and other Subjects connected with Natural History, Sir William Henry Flower, K.C.B., Prof. R. Meldola, F.R.S., 217  
 Museums, the Natural History, 247  
 Mutilation of Animals, the Wanton, Dr. George Fleming, 605  
 Mycology : Technical Mycology, Dr. Franz Lafar, 265 ; Mykologische Untersuchungen aus den Tropen (Mycological Researches in the Tropics), Dr. Carl Holtermann, G. Massee, 590  
 Myers (Mr.), Psychological Side of Hypnotism, 350  
 Mythology, the Crab in, Prof. D'Arcy Thompson, 143  
 Naegamvala (Prof.), Photograph of the Chromosphere, 526  
 Naples, the Disposal of the Town Refuse of, Prof. P. Boubée, 524  
 Nasimi (Prof. R.), Solfatara Gases, 269  
 National Museum of Natural History, the, 227  
 National Physical Laboratory, the, 548, 565  
 Natterer, (Dr. K.), on the Oceanographical Results of the Austro-Hungarian Deep-Sea Expeditions in the Eastern Mediterranean, Sea of Marmora, and Red Sea, 586  
 Natural History : Hints on the Management of Hawks, J. E. Harting, 122 ; Wild Pigs and Python, Ernest Hose, 133 ; Essays on Museums and other Subjects connected with Natural History, Sir William Henry Flower, K.C.B., Prof. R. Meldola, F.R.S., 217 ; the National Museum of Natural History, 227 ; the Natural History Museum, 247 ; the Mammals, Reptiles, and Fishes of Essex, H. Laver, 242 ; Memoirs of Novorossian Society, 285 ; Death of Mr. Van Voorst, 289 ; a Living Toad in a Snake, Colonel W. F. Major, 344 ; Live Frog taken out of a Snake, Rose Haig Thomas, 367 ; H. Ling Roth, 368 ; Death of J. M. Moniz, 372 ; Storia Naturale per la Gioventù Italiana, Dr. Achille Griffini, 389 ; American Museum of Natural History, Glyptic and Graphic Art applied to Palaeontology, 392 ; the Blue-Tongued Tasmanian Lizard as a Snake Destroyer, Stuart Dove, 422 ; the Memory of Fishes, Prof. W. C. McIntosh, 422 ; Memoirs of St. Petersburg Society of Naturalists, 491 ; Report on the Results of the Pamir Boundary Commission, A. W. Alcock, 493 ; Deep-Sea Dredging, and the Phosphorescence of Living Creatures at great Sea Depths, E. L. J. Ridsdale, 497 ; a Hairless Rat, T. V. Hodgson, 546 ; a Fourth Specimen of *Notornis mantelli*, Owen, Prof. W. Blaxland Benham, 547 ; a Living Representative of the Old Ground-Sloths, 547 ; the Centipede-Whale, Kumagusu Minakata, 570 ; the Development of the Tuatara Lizard, Prof. A. Dendy, 609 ; G. A. Boulenger, 619  
 Natural Hygiene, H. Lahmann, 614  
 Natural Phenomena, Sun-spot Periods and, M. Camille Flammarion, 134  
 Natural Selection, Prof. W. F. R. Weldon, F.R.S., 499 ; Organic Variations and their Interpretation, J. T. Cunningham, 593 ; Rev. George Henslow, 594 ; Prof. W. F. R. Weldon, F.R.S., 595  
 Nature, Problems of Researches and Discoveries of, Gustav Jaeger, 222  
 Nature, a Student of, R. Menzies Fergusson, 543  
 Nautical Astronomy, a Proposed Revolution in, 10  
 Nautical Astronomy, Captain J. F. Ruthven, 151  
 Navigation : Screw Propeller Cavitating Water, Hon. C. A. Parsons, 62 ; Navigation, Captain J. F. Ruthven, 104 ; Navigation and Cyclones, A. Ferion, 197 ; Illuminated Buoys, I. Pintsch, 489 ; the *Mohegan* Wreck and a suggested Possible Local Deviation of Ship's Compass, Prof. A. W. Rücker, 627  
 Nebulae, the Spectrum of Hydrogen in, Prof. Scheiner, 41  
 Nebula of Andromeda, the, 515 ; M. Seraphimoff, 605  
 Nebulae, Catalogue of, Lewis Swift, 515  
 Nebular Hypothesis, the, M. le Général Lafouge, 342  
 Nebulosity of the Pleiades, the Exterior, 463  
 Neely (S. T.), the Physics of Timber, 130  
 Neolithics : Discovery of a Crannog on the Clyde, W. A. Donnelly, 488 ; Crannoges in Estuaries, W. F. Sinclair, 521 ; R. J. Ussher, 571  
 Neuhaus (R.), Proof of Existence of Thin Zenker's Plates in Colour Photographs by Lippmann's Method, 187  
 Neurons of the Cortex Cerebri, on the Changes in the Form of the, under Various Conditions of Rest and Excitation, Dr. J. Demoor and Prof. Heger, 481  
 New Physical Laboratory of Owens College, Manchester, 621  
 New South Wales Linnean Society, 192, 240, 359, 492, 635  
 New South Wales Royal Society, 312, 464  
 New York Botanical Garden, 603  
 New Zealand, the Echinoderm Fauna of, H. Farquhar, 636  
 New Zealand Kea, the, Why it Attacks Sheep, F. R. Godfrey, 110  
 Newberry (John Strong), the Flora of the Amboy Clays, 81  
 Newcomb (Prof. Simon), Reminiscences of an Astronomer, 376, 583, 606  
 Newlands (J. A. R.), Death of, 372 ; Obituary Notice of, 395  
 Nicholson (Wm. Edward), Bacteria on an Ancient Bronze Implement, 32  
 Nicoloux (Dr. Maurice), Carbon Monoxide in Blood, 120 ; Production of Carbon Monoxide in Organism, 143 ; Carbonic Oxide Production in Organism, 483  
 Nijland (Dr.), the Variable  $\alpha$  Ceti, 330  
 Nippur, or Explorations and Adventures on the Euphrates, J. P. Peters, 243  
 Nitro-Explosives, J. Daniel, 4  
 Noetting (Dr. Fritz), Petroliferous Sands and Mud Volcanoes in Burma, 20 ; Palaeontology of Baluchistan, 257  
 Noll (Dr. Fritz), a Text-Book of Botany, 494  
 Nomenclature and Notation in Calorimetry, J. Y. Buchanan, F.R.S., 30  
 Nordenström (G.), Swedish Iron-Ore Mining, 430  
 North America, Bird Studies, an Account of the Land Birds of Eastern, W. E. D. Scott, 541  
 North American Birds, a Hundred and Fifty, Neltje Blanchan, 388  
 North Pole, Suggested "Ice-breaker" Expedition to, Admiral Makaroff, 353 ; Return of the Swedish Arctic Expedition, 523  
 Northern "Durchmusterung," the, 42  
 Northern Highway of the Tsar, a, Aubyn Trevor-Battye, 75  
 Northward over the "Great Ice," Robert E. Peary, Dr. Hugh Robert Mill, 589  
 Notation in Calorimetry, Nomenclature and, J. Y. Buchanan, F.R.S., 30  
 Notes from a Dairy, 1873-1881, Right Hon. Sir Mountstuart E. Grant Duff, 198  
*Notornis mantelli*, Owen, a Fourth Specimen of, Prof. W. Blaxland Benham, 547  
 Novorossian Society of Naturalists, Memoirs of, 285  
 Obach (Dr. Eugene F. A.), Gutta-Percha, 136  
 Observations, Notes on, Sydney Lupton, 7  
 Observatories : Mr. Tebbutt's Observatory, 88 ; the Liverpool Observatory, 134 ; the Royal Observatory, Greenwich, Annual Report, 134 ; Oxford University Observatory, Prof. Turner, 182 ; Destruction of the French Observatory in Madagascar, E. Colin, 259 ; the New Observatory at Heidelberg, 376 ; the Ben Nevis Observatories, 298, 350 ; the Paris Observatory, 356 ; New Teaching Observatory of the Californian University, 553 ; Annual Report of the Cambridge Observatory, 553 ; Annual Publication of the Observatory of Rio de Janeiro for 1898, 553 ; the Cape Observatory Report, 584

- Obsidian "Buttons" in Australia, 109  
 Oceanography, some Results of my Researches on, Albert Prince of Monaco, 200  
 O'Connor (D.), the Transport of Live Fish, 125  
 O'Connor (Rev. J. F. X.), Facts about Book Worms, 435  
 Œuvres complètes de Christiaan Huygens, Dr. J. L. E. Dreyer, 361  
 Ogilvie (Mrs.), *Æthoprora perspicillata*, 192  
 Ogilvie (Maria M.), die Korallen der Stramberger Schichten, 282  
 Oldham (R. D.), the Indian Earthquake of August 9, 1895, 421; on the Great Indian Earthquake of June 12, 1897, 586  
 Oliver (Dr. T.), French Match Manufactories, 327  
 Ontario, Corundum in, 256  
 Oolite, a Tooth of *Hybodus grossicornis* from the Inferior, Thos. Beacall, 390  
 Opposition, Observations of Jupiter during the, 1898, Sir J. Comas Solá, 526  
 Ophthalmology: Trachoma in Prussia, 254; Inflammatory Vegetable Application Used by Malingering Egyptian Soldiers, Kenneth Scott, 255  
 Optics: Cloud-production by Ultra-Violet Light, C. T. R. Wilson, 62; New Instrument for Measuring Astigmatism, R. Straubel, 117; Optical Phenomena depending on Electric Charge and Mass of Ions, Part I., Prof. H. A. Lorenz, 48, 144; Röntgen Rays and Ordinary Light, C. Godfrey, 142; Possibility of Deducing Magneto-Optic Phenomena from Direct Modification of Electro-dynamic Energy Function, F. G. Leatham, 142; Visibility of Blind Spot in Retina, Aug. Charpentier, 168; Das Optische Drehungsvermögen Organischer Substanzen und dessen praktische anwendung, H. Landolt, Drs. O. Schönrock, P. Lindner, F. Schütt, L. Berndt, and T. Posner, 172; Flicker, T. C. Porter, 188; Interference Fringes applied to Study of Micrometers, Maurice Hamy, 216; Radiation of Incandescent Burners, H. Le Chatelier and O. Boudouard, 240; Maxima and Minima of Apparent Brightness due to Illusion, Prof. Haga, 288; a Modified Camera Lucida, Frederick Ives, 311; Recueil de Données Numériques Optique, H. Dufet, 344; a Simple Method of Making Light Mirrors, Prof. Charles B. Thwing, 571; New Action of Light traversing Metallic Vapours in Magnetic Field, D. Macaluso and O. M. Corbino, 635  
 O'Reilly (Prof. J. P.), Astronomical Destination of Cromlechs near Dublin, 61; Rainfall and Earthquake Periods, 103  
 Orchids of the Sikkim Himalaya, Sir George King and Robert Pantling, 465  
 Ordinary Light, Röntgen Rays and, Prof. J. J. Thomson, F.R.S., 8  
 Ores, Methods for the Analysis of Iron and Steel, in Use at the Laboratories of Iron and Steel Works in the Region about Pittsburg, Pa., John Parry, 149  
 Organic Chemistry, Practical, George George, 245  
 Organic Variations and their Interpretation, J. T. Cunningham, 593; Rev. George Henslow, 594; Prof. W. F. R. Weldon, F.R.S., 595; Walter Garstang, 619  
 Organogeny: Biomechanik erschlossen aus dem Principe Organogenese, Dr. E. Mehnert, 591  
 Organographie der Pflanzen, Dr. Goebel, 74  
 Ornithology: Morphology of Owls, W. P. Pycraft, 46; Why the New Zealand Kea attacks Sheep, F. R. Godfrey, 110; Obituary Notice of Osbert Salvin, F.R.S., 128; Birds in London, W. H. Hudson, 172; Lories, Dr. St. G. Mivart, F.R.S., 189; the Fauna of British India, Birds, W. T. Blanford, 195; the Habits of Indian Birds, Frank Finn, 208; Anatomy of the Swallows, Dr. R. W. Shufeldt, 199; Wolmer Forest as a Sanctuary for Birds, 255; Ackworth Birds, being a List of Birds in the District of Ackworth, Yorkshire, Major Walter B. Arundel, 292; a Dictionary of Bird Notes, C. L. Hett, 366; Bird Neighbours: an Introductory Acquaintance with One Hundred and Fifty Birds commonly found in the Gardens, Meadows, and Woods about our Homes, Neltje Blanchan, 388; the Life Work of William Turner, Rev. H. A. Macpherson, 398; Social Instinct in Birds, B. B. Osmaston, 398; Bird Studies, an Account of the Land Birds of Eastern North America, W. E. D. Scott, 541  
 Osborn (Prof.), *Ptilothyrax fraasii*, 428  
 Osgood (Prof.), Example of Single-valued Function with Natural Boundary, whose inverse is also Single-valued, 310  
 Osmaston (B. B.), Social Instinct in Birds, 398  
 Osmosis: the Theoretical Calculation of an Osmotic Optimum, Prof. Errera, 633  
 Osteometric Index-Calculator, an, David Waterston, 597  
 Ostrich, the Angora Goat and a Paper on the, S. C. Cronwright Scheiner, 314  
 Ostrovomov (Herr), Flying Entomostraca, 513  
 O'Toole (Rev. H.), a New Hydrometer, 191, 524  
 Oudin (M.), Electric Resonators, 167  
 Owens College, Manchester, New Physical Laboratory of, 621  
 Owls, Morphology of, W. P. Pycraft, 46  
 Oxford, Medical Missions in their Relation to, Sir Henry W. Acland, K.C.B., F.R.S., 222; Oxford University Observatory, Prof. Turner, 182  
 Oyster, Modified Pedal Muscles in, Prof. Herdman, F.R.S., 216  
 Ozone, the Production and Uses of, 416  
 Pacific Coast, Earthquakes of, 1767-1897, Dr. E. S. Holden, 231  
 Packard (Prof. Alpheus S.), a Text-Book of Entomology, including the Anatomy, Embryology and Metamorphoses of Insects, for Use in Agricultural and Technical Schools and Colleges, 244  
 Paget (Stephen), Ambroise Paré and his Times, 1510-1590, 49  
 Paleontology, Prof. Whitney's "Calaveras Skull," 17; the Petrification of Fossil Bones, E. Goldsmith, 59; Skull of Amphictis, E. S. Riggs, 92; *Thylacoleo*, Dr. R. Broom, 192; Paleontology of India, Dr. Fritz Noetling, 256; Dr. Carl Diener, 257; Die Korallen der Stramberger Schichten, Maria M. Ogilvie, Dr. J. W. Gregory, 282; Outlines of Vertebrate Paleontology, A. Smith Woodward, 337; a Tooth of *Hybodus grossicornis* from the Inferior Oolite, Thos. Beacall, 390; Glyptic and Graphic Art applied to Paleontology, 392; a Dragon of the Prime, 418; *Ptilothyrax fraasii*, Prof. Osborn, 428; Prehistoric Fauna of Block Island, G. F. Eaton, 432; *Archinolemur*, M. Ameghino, 492; Species of Ichthyodectes, O. P. Hay, 539  
 Palazzo (Signor), on the Magnetic and Electrolytic Actions of Electric Railways, 533  
 Pamir Boundary Commission, Report on the Natural History Results of the, A. W. Alcock, 493  
 Pantling (Robert), Annals of the Royal Botanic Gardens, Calcutta, Vol. viii., the Orchids of the Sikkim Himalaya, 465  
 Paper, the Deterioration of, Report of Society of Arts Committee, 85  
 Paper, a New Photographic Printing, 213  
 Papagueria, W. J. McGee, 525  
 Parallaxes and Masses of  $\gamma$  Virginis and  $\gamma$  Leonis, Dr. Belopolsky, 400  
 Paré (Ambroise) and his Times 1510-1590, Stephen Paget, 49  
 Paris Academy of Sciences, 23, 47, 71, 95, 119, 143, 167, 191, 216, 239, 264, 287, 311, 336, 359, 384, 408, 432, 464, 492, 516, 540, 564, 588, 612, 635  
 Paris, Climate of, J. Jaubert, 22  
 Paris Exhibition, the Great Telescope for the, 424  
 Paris Observatory, the, 356  
 Parker and Haswell's Text-book of Zoology, Prof. W. N. Parker, 200  
 Parker (H.), the Abnormal Rainfall of December 1897 in Ceylon, 132  
 Parker (Dr. J. Gordon), on Recent Advances in the Tanning Industry, 557  
 Parker (Prof. T. Jeffery, F.R.S.), a Text-book of Zoology, 25  
 Parker (Prof. W. N.), Parker and Haswell's Text-book of Zoology, 200; Elements of the Comparative Anatomy of Vertebrates, 409  
 Parry (John), Methods for the Analysis of Ores, Iron and Steel, in Use at the Laboratories of Iron and Steel Works in the Region about Pittsburg, Pa., 149  
 Parsons (Hon. C. A.), Screw Propeller Cavitating Water, 62  
 Pasteur Institut, Report of Anti-Rabic Inoculations in 1897, 59  
 Pasteur, a Life of, Percy Frankland, F.R.S., and Mrs. Percy Frankland, 290  
 Pathology: a Manual on General Pathology for Students and Practitioners, Dr. W. S. Lazarus Barlow, 244; Pasteur, Percy Frankland, F.R.S., and Mrs. Percy Frankland, 290; Opening of the Thompson-Yates Laboratories at University College, Liverpool, 575  
 Paton (Dr. D. Noël), upon the Distribution of Nitrogen and of Sulphur in the Urine of the Dog, 486  
 Payne (F. F.), Balloon-shaped Cloud, 353; Remarkable Meteor at Ontario, 604  
 Pavements, Mirage on City, R. W. Wood, 596  
 Peachey (S. J.), Resolution of Tetrahydropapaverine into its Optically Active Components, 94

Pearson (Prof. Karl, F.R.S.), the Distribution of Prepotency, 292; Chance or Vitalism, 495; Reconstruction of Stature of Prehistoric Races, 286  
 Pearson (Marchant), Notes on Volumetric Analysis, 269  
 Peary (Robert E.), Northward over the "Great Ice," Dr. Hugh Robert Mill, 589  
 Peat-Fibre Yarn, 178  
 Pechuele (Herr), Comet Tempel 1866? 490  
 Peddie (Dr. W.), Torsional Oscillations of Wires, 239  
 Peek (Sir Cuthbert), Meteorological Observations at Rousden Observatory, 514  
 Peirce (B. O.), Properties of Seasoned Magnets of Self-hardening Steel, 117  
 Pekelharing (Prof.), Food-reception by Sponges, 47  
 Pelabon (H.), Action of Hydrogen on Silver Sulphide and *vice versa*, 240  
 Pell (A.), Focal Surfaces of Congruences of Tangents to given Surface, 22  
 Pellat (H.), on Evaporation of Iron at Ordinary Temperature, 71; the Energy of a Magnetic Field, 612; Variation of Dielectric Constants with Temperature, 635  
 Pendulum without Disturbance, Maintenance of Motion of, G. Lippmann, 264  
 Pendulum, Mode of supporting Motion of, A. Guillet, 287  
 Pendulum Oscillations in same Straight Line, Apparatus for representing Resultant of Two, Prof. A. Righi, 488  
 Pentane Lamp, 10-candle, Vernon Harcourt, 557  
 Pepper (Dr. William), Death of, 372; Obituary Notice of, 420  
 Pepton Committee Experiments, the, 585  
 Perfumes, the Chemical Manufacture of, 398  
 Perigal (Henry), Death of, 131  
 Perringuey (L.), South African Coleoptera, 423  
 Perini (N.), Dante's Ten Heavens, Edmond G. Gardner, 362  
 Periodic Comets, M. Schulhof, 526  
*Peripatus nove-britanniae*, Development of, Dr. A. Willey, 142  
 Perkin (A. G.), Yellow Colouring Matter of Leaves of *Arctostaphylos uva ursi*, 23; Azobenzene Derivative of Chrysin, 238; Constituents of "Waras," 238  
 Perkin (W. H., jun.), Synthesis of Cis- and Trans-Caronic Acids, 23; Lauronic Acid, 23; Action of Bromoacetal on Sodium Derivative of Ethylic Malonate, 23  
 Perot (A.), Method of determining Order of Interference Fringe of High Order, 143  
 Perrier (Prof. Ed.), Presidential Address to International Sea-Fisheries Congress at Dieppe, 511  
 Perrine, Comet (March 19), 19, 42, 60; Dr. Berberich, 400  
 Perrine, Comet (June 14), 232, 280  
 Perrot (Louis), Thermo-Electric Electromotive Forces in Crystallised Bismuth, 23  
 Perseid Meteoric Shower, the Recent, W. F. Denning, 371  
 Perthshire, the Flora of, Dr. F. Buchanan White, 124  
 Petavel (J. E.), Heat dissipated by Platinum Surface at High Temperatures, 237  
 Peters (J. P.), Nippur; or, Explorations and Adventures on the Euphrates, 243  
 Petrie (Prof. W. M. Flinders), Prehistoric Egypt, 31  
 Petrofiferous Sands and Mud Volcanoes in Burma, Dr. Fritz-Noetting, 20  
 Pflanzen, Organographie der, Dr. Goebel, 74  
 Pharmacology, its Aims and Methods, Dr. W. J. S. Jerome, 158  
 Pharmacy: Death of Dr. J. E. de Vry, 352; the British Pharmaceutical Conference, Presidential Address of Dr. Charles Symes, 398; the Chemical Manufacture of Perfumes, 398  
 Phillips (Dr.), the Climate of Cuba, 256  
 Phillips (Prof.), Form of Protoplasmic Body in Florideae, 633  
 Philology: Origin of Phœnician Alphabet Characters, Prof. Crum Brown, 143  
 Phisalix (Dr. C.), on the Existence of an Oxydase in the Skin of certain Batrachians, 485  
 Phœnician Alphabet Characters, Origin of, Prof. Crum Brown, 143  
 Phoroglucinol, Bone-Softening by, J. J. Andear, 47  
 Phosphorescence, Herbert Jackson, 559; Deep-Sea Dredging and the Phosphorescence of Living Creatures at great Sea Depths, E. L. J. Ridsdale, 497  
 Phosphorus in Lucifer Matches, 345  
 Photography: at the Crystal Palace, 14; Submarine Photography, Prof. Louis Boutan, 18; Electrical Impressions on Photographic Plates, A. S. Bates, 32; Photographic Action

of Printer's Ink, W. Trueman Tucker, 32; Printer's Ink and Photographic Plates, Rev. F. J. Iervis-Smith, F.R.S., 78; Phase Reversal and Silver Zone Plates, R. W. Wood, 61; Photography by the Aurora Borealis, J. E. Turner, 88; Improvement of Over-Exposed Negatives, M. Mercier, 120; Krömsköp Colour Photography, Frederick Ives, 124; Printed Matter and Photographic Plates, A. A. C. Swinton, 125; the Action of Electric Discharges on Photographic Plates, A. A. C. Swinton, 151; Figures produced on Photographic Plates by Electric Discharges, J. A. McClelland, 142; Action of Ammonium Persulphate on Silver in Negatives, MM. Lumière and Seyewetz, 168; Proof of Existence of Thin Zenker's Plates in Colour Photographs by Lippmann's Method, R. Neuhaus, 187; Reproduction by Photographic Processes, T. Bolas, 204; a New Photographic Printing Paper, 213; the Scientific Side of Photography, John Stuart, 254; Practicum der Wissenschaftlichen Photographie, Dr. Carl Kaiserling, 268; Comparison of Shadows of Röntgen Rays by Photography, Prof. Villari, 303; Photographische Bibliothek, Nos. 9 and 10, Das Fernobjektiv, Hans Schmidt, Der Gummidruck, J. Gaedick, 343; Photography Annual: a Compendium of Photographic Information with a Record of Progress in Photography for the Past Year, 466; Meteorological Photography, Mr. Clayden, 534; Photograph of the Chromosphere, Prof. Naegamvala, 526; the Manufacture of Kinematograph Films, 552; Dr. W. J. Russell on the Action exerted by certain Metals and other Organic Substances on a Photographic Plate, 556; Mr. C. H. Bothamley on the Action of certain Substances on the Undeveloped Photographic Image, 557; Prof. Percy Frankland on an Additional Photographic Action—that of Bacteria, 557; Triplet Lightning Flash, C. E. Stromeyer, 570; Photographing Lightning by Day, F. H. Glew, 627; Mr. Francis Galton on Photographic Records of Pedigree Stock, 584  
 Phylakopi, Melos, Excavations, the, Mr. Hogarth, 627  
 Physics: Notes on Observations, Sydney Lupton, 7; Röntgen Rays and Ordinary Light, Prof. J. J. Thomson, F.R.S., 8; the New Physical Research Laboratory at the Sorbonne, 12; the Flow of Water, Prof. H. S. Hele-Shaw, 34, 520; Flow of Water shown by Colour Bands, Prof. Osborne Reynolds, F.R.S., 467; Prof. H. S. Hele-Shaw, 467; Collapse of Spherical Shell under Pressure, Prof. H. Schoentjes, 40; an Elementary Course of Physics, 51; on Evaporation of Iron at Ordinary Temperature, H. Pellat, 71; Liquefaction of Hydrogen, 55; Dr. W. Hampson, 77, 174, 246, 292; Prof. J. Dewar, F.R.S., 125, 199, 270, 319; Physical Society, 93, 119, 166, 215; Wiedemann's Annalen, 93, 117, 187, 335, 491; Die fundamentalen physikalischen Eigenschaften der Kristalle in elementarer Darstellung, Dr. Woldemar Voigt, W. H. and G. Chisholm Young, 99; Structures formed by Drying Fluid with Particles in Suspension, C. A. Raisin, 117; New Method of Measuring Dip and Horizontal Intensity, G. Meyer, 117; the Theory of Sound, J. W. Strutt, Baron Rayleigh, F.R.S., 121; the Rudiments of Physics and Chemistry, 123; on a New Constituent of Atmospheric Air, Prof. W. Ramsay, F.R.S., and Morris W. Travers, 127; the Physics of Timber, S. T. Neely, 130; Figures produced on Photographic Plates by Electric Discharges, J. A. McClelland, 142; on Laboratory Arts, Richard Threlfall, C. V. Boys, F.R.S., 145; Diffusive Convection, A. Griffiths, 167; Dendritic Patterns caused by Evaporation, Prof. G. H. Bryan, F.R.S., 174; Catherine A. Raisin, 224; Method of Measuring Surface Tension of Liquids, Dr. F. T. Trouton, F.R.S., 191; a New Hydrometer, Rev. H. O'Toole, 191, 524; Apparatus for Drying Bodies in Vacuo, R. J. Moss, 191; Liquid Air at One Operation, Lord Rayleigh, F.R.S., 199; the supposed Photographs of Currents from Human Body, Dr. A. Guéhard, 207; James Clerk Maxwell and Modern Physics, R. T. Glazebrook, F.R.S., Prof. A. Gray, F.R.S., 219; Torsional Oscillations of Wires, Dr. W. Peddie, 239; the Doctrine of Energy: a Theory of Reality, 269; a First Year's Course of Practical Physics, J. F. Tristram, 269; some Conditions affecting Geyser Eruptions, T. A. Jaggar, jun., 261; Compressibility of Air as Gaseous Mixture, E. H. Amagat, 287; Recueil de Données Numériques Optique, H. Dufet, 344; Text-Book of Physical Chemistry, Clarence L. Speyers, 344; Local Variation in Intensity of Gravity near Mount Etna and in Eastern Sicily generally, A. Ricco, 354; Œuvres complètes de Christiaan Huygens, Dr. J. L. E. Dreyer, 361; Melting Points of Substances under High Pressure, E. Mack, 432; the Motion of Falling Spray, Arthur Jenkin, 460;



- Motion of Translation of Luminiferous Ether, W. Wien, 491; the National Physical Laboratory, 548, 565; Fourier's Series, Prof. Albert A. Michelson, 544; A. E. H. Love, F.R.S., 569; Lehrbuch der Experimental-Physik, Eduard Riecke, Prof. A. Gray, F.R.S., 566; Transference of Heat in Cooled Metal, Henry Bourget, 200, 521; Albert T. Bartlett, 411; John Stone Stone, 596; New Laboratory of Owens College, Manchester, 621; the Phenomenon of Equilibrium in Isomorphous Mixtures, Guiseppe Bruni, 627; Mixture of Marsh Gas and Air not Exploded by Glowing Filament of Incandescent Lamp, H. Couriot and J. Meunier, 635
- Physiology: Sleep and the Theory of its Cause, 8; Thymus and Thyroid Glands in Marsupialia, J. Johnstone, 46; Text-book of Physiology, Dr. T. H. Milroy, 73; Action of Anesthetics on Protoplasm, J. D. Farmer and A. D. Waller, F.R.S., 93; Carbon Monoxide in Blood, Maurice Nicloux, 120; Production of Carbon Monoxide in Organism, Maurice Nicloux, 143; Electro-physiology, W. Biedermann, 150; the Span of Gestation and the Cause of Birth, Dr. John Beard, Dr. Arthur Robinson, 173; Modified Pedal Muscles in Oyster, Prof. Herdman, F.R.S., 216; Metabolism of Nucleins, Drs. Milroy and Malcolm, 239; the Life-History of the Salmon, 280; Effect of Mixed Diet on Salivary Digestion, Dr. W. A. Robertson, 311; Artificial Food, Dr. Sidney Williamson, 368; Origin of Red Blood Corpuscles in *Tarsius*, Prof. Hubrecht, 428; Physiological Use of Salts, Léon Fredericq, 462; Effect of Bicycling on Lungs and Heart, A. Bianchi and F. Regnault, 464; Lilienfeld's Synthesis, Dr. John W. Pickering, 468; the Triennial International Congress of Physiologists, 481; Prof. Mosso on Mountain Sickness, 481; Prof. A. Kossel on Albumens, 481; Dr. J. Demoor and Prof. Heger on the Changes in the Form of the Neurons of the Cortex Cerebri under various Conditions of Rest and Excitation, 481; Prof. H. Hamburger on the Influence of Solutions of Inorganic Salts on the Volume of Animal Cells, 481; Prof. Kronecker and Mdle. Devine on the Results of further Investigation of the Respiration of the Heart of the Tortoise, 481; Dr. L. Asher on the Theory of Lymph Production, 481; Dr. W. M. Bayliss on the Non-Antagonism of Visceral and Cutaneous Vascular Reflexes, 481; Mr. W. M. Fletcher on the Methods employed in his Investigation on the CO<sub>2</sub> Discharge of Excised Tissues, 481; Dr. Leonard Hill on the Influence of Gravity on the Circulation of the Blood, 481; Prof. Townsend Porter on the Mammalian Heart, 482; Prof. A. D. Waller, F.R.S., on the Influence of Salts upon the Electromobility of Medullated Nerve, 482; Dr. J. N. Langley, F.R.S. on the Discovery of the Possibility of obtaining an Experimental Union between the Nerve-Fibres of the Vagus Nerve and the Sympathetic Nerve-Cells of the Superior Cervical Ganglia, 482; Prof. Heymans upon Physiological and Artificial Disintoxication, 482; Prof. Sherrington, F.R.S., on his Discovery of Inhibition of the Tonus of a Skeletal Muscle by the Excitation, either Electrical or Mechanical, of the Antagonist Muscle, 482; Prof. Gotch, F.R.S., and Mr. G. J. Burch, Photographs of the Electrical Response of Nerve to Excitation, 483; Prof. A. B. Macallum on his Method for Detection and Localisation of Phosphorus in Animal and Vegetal Cells, &c., 483; Prof. Boruttan on Recent Advances in Electro physiology, 483; Dr. Theodore Beer on the Accommodation of the Eye in various Species of the Animal Kingdom, 483; Prof. Halliburton, F.R.S., and Dr. F. W. Mott, F.R.S., on the Influence of Cholin, Neurine, and some Allied Substances upon the Arterial Blood-Pressure, 483; Prof. E. Weymouth Reid, F.R.S., and Dr. J. S. Macdonald on the Electromotive Changes in the Phrenic Nerve, 483; Prof. Sherrington, F.R.S., and Dr. Hering, Demonstration in the Monkey (*Macacus*) of Inhibition of the Contraction of Voluntary Muscle evoked by Electrical Excitation of certain Points of the Cortex Cerebri, 483; Dr. Maurice Nicloux on Carbonic Oxide Production in Organism, 483; Prof. Waller, F.R.S., and Miss Sowton on the Action upon Isolated Nerve of Muscarine, Chlorine and Neurine, 484; Miss S. C. Sowton, Report of a Large Series of Galvanometric Records of the Decline of the Current of Injury in Medullated Nerve, and of the Changes in its Response to Periodic Stimulation, 484; Dr. Bayliss and Dr. E. Starling on an Influence of Blood Supply on Peristaltic Movement, 484; Prof. S. P. Budgett on Physical Absorption of Isotonic and Anisotonic Salt-Solutions, 484; Dr. F. S. Lee on the Fatigue of Muscle, 484; Prof. W. H. Thompson, Observations on the Diuretic Effects of Small Quantities of Normal Saline Solution, 484; Dr. Brunton Blaikie and Prof. Gottlieb, Examination of the Muscle of Dogs which had been Bled to Death, 484; Prof. Hagemann, Researches on the Actual Nutritional Value of the Feed of the Horse, 484; Drs. F. G. Hopkins and W. B. Hope on the Questions of the Nucleo-Proteids as Dietetic Precursors of Uric Acid, 484; Dr. Martin Hahn on the Chemical and Immunising Properties of Plasmines, 484; Prof. Livon, Observations on the Action of Extract of the Pituitary Body upon the Function of the Vagus Nerve, 484; Dr. Medwedew, Studies concerning the Oxidation of Salicyl Aldehyde in Tissue-Extracts, 484; Drs. Bedard and Mabilie on the Action of Arsenic upon the Intoxication produced by Ingestion of the Thyroid Body, 484; Dr. de Saint Martin on the Absorbent Power of the Blood for Oxygen and for Carbonic Acid, 484; Dr. C. Phisalix on the Existence of an Oxidase in the Skin of certain Batrachians, 485; Prof. E. Schäfer, F.R.S., on the Alleged Sensory Functions of the Motor Cortex Cerebri, 485; Prof. A. Vitzon, Recovery of Sight in Monkeys, after Total Ablation of the Occipital Lobes, 485; Prof. Boyce and Dr. Warrington on the Physiological Structure of the Brain of the Fowl, 485; Prof. V. Frey on the Adequate Stimulation of Touch Nerves, 485; Profs. Langlois and Richet, Observations upon the Resistance of Diving Animals to Asphyxia, 485; Dr. R. Magnus on the Reaction of the Pupil of the Isolated Eel's Eye under Various Homogeneous Lights, 485; Prof. Delezenne, Is the Congestion of the Limbs and Skin produced in Asphyxia due to the Active Dilatation of the Blood-Vessels of those Parts, or Mechanical Dilatation by the Blood driven out of the Viscera by the Asphyxial Contraction of the Visceral Blood-Vessels? 486; Dr. D. Noël Paton upon the Distribution of Nitrogen and of Sulphur in the Urine of the Dog, 486; Dr. Arthur Biedl on the Blocking of the Thoracic Duct on the Removal of the Lymph from it by a Cannula producing a Glycosuria, 486; Prof. Denys, Experiments towards distinguishing Distinct Species among the Leucocytes of Mammals, 486; Prof. Graham Lusk on the Administration of Phlorizin to Starving Dogs, 486; Prof. G. Burch on Temporary Colour-Blindness, 486; Dr. F. H. Scott on some Points in the Micro-Chemistry of Nerve-Cells, 486; Opening of the Thompson-Yates Laboratories at University College, Liverpool, 575, 606; Increase of Weight of Body by Transformation of Fat into Glycogen, Ch. Bouchard, 588; Bouchard's Theory of the Transformation of Fat into Glycogen, Daniel Berthelot, 612; Air and Water as Factors in Food of Frogs, S. Jourdain, 612; Fat-Transformation by Direct Oxidation, M. Hanriot, 635; Plant Physiology: Fisiologia Vegetale, Dr. L. Montemartini, 100; Observations on Stomata, Francis Darwin, F.R.S., 212; Plant Life, considered with Special Reference to Form and Function, Charles Reid Barnes, 519; Practical Plant Physiology, Dr. W. Detmer, 592
- Phyto-Plankton of the Atlantic, the, George Murray, F.R.S., and V. H. Blackman, 70
- Pickering (Prof. E. C.), Variable Stars of Short Period, 181; Stars having Peculiar Spectra, 258
- Pickering (Dr. John W.), Lilienfeld's Synthesis, 468
- Picou (R. V.), Canalisation électriques, 519
- Pidgeon (Dan), a White or Milky Sea, 520
- Piepers (M. C.), Evolution of Colour in Lepidoptera, 425
- Pigs, Wild, and Python, Ernest Hose, 133
- Pile-Dwellings: Discovery of a Crannog on the Clyde, W. A. Donnelly, 488; Crannoges in Estuaries, W. F. Sinclair, 521; R. J. Ussher, 571
- Pintsch (J.), Illuminated Buoys, 489
- Pisciculture: Ten Pound Island (Massachusetts) Fish Hatchery, Sir D. Colnaghi, 489; Death of Dr. Eugenio Bettoni, 626; Trout Acclimatisation in Cape Colony, J. D. F. Gilchrist, 628
- Pitchblende, a New Radio-Active Substance in, P. and S. Curie, 312
- Pitcher-Plant, Spider and, R. I. Pocock, 274
- Pithecanthropus erectus*, the Brain of, E. Dubois, 427
- Pittsburg, Methods for the Analysis of Ores, Iron and Steel, in Use at the Laboratories of Iron and Steel Works in the Regions about, John Parry, 149
- Plague, Inoculation against, 581
- Plague in Calcutta, Dr. Haffkine's Methods and the, 85
- Plague, Prof. Haffkine's Inoculation System as a Preventive of, 354

- Plague, the, a Centre in German East Africa, Prof. Koch, 254  
 Plague, Rats and the, Dr. F. G. Clemow, 551  
 Plague at Vienna, Deaths from, 625; Death of Dr. Müller, 625  
 Planets: the Minor Planets, John K. Rees, 304; Mars in 1896-7, Prof. V. Cerulli, 304; Observations of Jupiter during the Opposition 1898, Sir J. Comas Solá, 526; the Planet between the Earth and Mars, Herr G. Witt, 526  
 Plankton Studies on Lake Mendota, Dr. E. A. Birge, 259  
 Plant Life, considered with Special Reference to Form and Function, Charles Reid Barnes, 519  
 Plant Physiology: *Fisiologia Vegetale*, Dr. L. Montemartini, 100; Observations on Stomata, Francis Darwin, F.R.S., 212; Practical Plant Physiology, Dr. W. Detmer, 592  
 Plants, on the Use of Methylene Blue as a Means of Investigating Respiration in, Prof. J. B. Farmer, 185, 215  
 Play of Animals, the, a Study of Animal Life and Instinct, Karl Groos, 410  
 Player (Samuel N.), Remarkable Hailstones, 223  
 Playfair (Lord), Death of, 108; Obituary Notice of, 128  
 Pleiades, the Exterior Nebulosities of the, 463  
 Pliny's Solpuga, the Nature and Habits of, 320; Prof. A. J. Cook, 247; R. I. Pocock, 294  
 Po Delta, Progressive Increase of, Prof. Marinelli, 353  
 Pocock (R. I.), Lion-Tiger Hybrid, 200; Spider and Pitcher-Plant, 274; the Nature and Habits of Pliny's Solpuga, 294; Spiders of Hungary, Cornelio Chyzer, Ladislao Kulczynski, 363  
 Podmore (Frank), Studies in Psychical Research, 5  
 Poincaré (M. H.), on the Stability of the Solar System, 183  
 Poisonous Plants, Animals and, Alfred W. Bennett, 571; Edward M. Langley, 597  
 Poisons, the Sale of, Sir J. C. Browne, 577  
 Poisson's Integral, Prof. Bôcher, 310  
 Polar Axis, the Movement of the Earth's, 1890-1897-5, Prof. Albrecht, 42  
 Poland, Russian, Mineral Hail in, M. Czernik, 352  
 Polar Expedition, the German, 397  
 Poles, the Secret of the, Henry Campion, 495  
 Pollution, Distillery, C. A. Stevenson, 319  
 Polonium, a New Radio-Active Substance, P. and S. Curie, 312  
 Polyps, the *Xenidae*, J. H. Ashworth, 335  
 Pomel (M.), Death of, 373, 396  
 Pope (F. G.), Condensation of Chloral Hydrates with Orcinol, 23  
 Pope (W. J.), Separation of Optical Isomerides, 23; Resolution of Tetrahydropapaverine into its Optically Active Components, 94  
 Porro (Dr. Francesco), Observations of Variable Stars, 60  
 Porter (Prof. Townsend), on the Mammalian Heart, 482  
 Porter (T. C.), Flicker, 188  
 Portugal (Don F. C. de), Death of, 626  
 Posner (T.), Das optische Drehungsvermögen organischer Substanzen und dessen praktische Anwendung, 172  
 Potato-Disease, a New, Prof. Marshall Ward, 633  
 Potential Matter—a Holiday Dream: Prof. Arthur Schuster, F.R.S., 367, 618  
 Potentiometer, the, and its Adjuncts, W. Clark Fisher, Prof. A. Gray, F.R.S., 313  
 Pottevin (H.), Saccharification of Starch by Malt, 24  
 Poulton (Prof. E. B., F.R.S.), Protective Mimicry, 223; on the Struggle for Existence in certain Common Insects, 585  
 Powell (H.), Meteorological Statistics of Windward Islands Hurricane, 551  
 Praeger (R. Lloyd), Open-air Studies in Botany, 150  
 Pratt (J. H.), Origin of Corundum Associated with Peridotites in North Carolina, 335  
 Prediction, Weather, Prof. Dr. W. J. van Bebbler, 22  
 Preece (W. H., F.R.S.), the Magnetic and Electrolytic Actions of Electric Railways, 533  
 Prehistoric Egypt, Prof. W. M. Flinders Petrie, 31  
 Prepotency, the Distribution of, Francis Galton, F.R.S., 246; Prof. Karl Pearson, F.R.S., 292  
 Preston (Prof. T.), on Radiation in a Magnetic Field, 532  
 Prevention of Malarial Fever, the Etiology and, Dr. E. Klein, F.R.S., 175  
 Preventive Medicine, Annual Meeting of the British Institute of, 206; Transactions, 339  
 Prime, a Dragon of the, 418  
 Princeton University, the Mathematical Theory of the Top, Lectures delivered on the Occasion of the Sesquicentennial Celebration of, Prof. Felix Klein, 244  
 Printed Matter and Photographic Plates, A. A. C. Swinton, 125  
 Printer's Ink, Photographic Action of, W. Trueman Tucker, 32; Printer's Ink and Photographic Plates, Rev. F. J. Jervis-Smith, F.R.S., 78  
 Printing, Rules for Compositors and Readers, Montagu Browne, 368  
 Problems of Nature, Researches and Discoveries of, Gustav Jaeger, 222  
 Proctor (Mary), Stories of Star-Land, 519  
 Protector, the U.S. Steamship, 488  
 Procyon, the Companion to, Prof. Schaeberle, 134  
 Prospecting for Minerals, S. Herbert Cox, 7  
 Protective Mimicry, J. Castets, S.J., Prof. E. B. Poulton, F.R.S., 223  
 Pruning-Book, the, L. H. Bailey, 290  
 Prussia, Trachoma in, 254  
 Prussia, Rabies in, 300  
 Przibram (W.), Versuch einer Darstellung der Empfindungen, 316  
 Psychology: Studies in Psychical Research, Frank Podmore, Dr. W. Leslie Mackenzie, 5; Animal Intelligence; an Experimental Study of the Associative Processes in Animals, Edward L. Thorndike, Prof. C. Lloyd Morgan, 249, 390; Psychologie als Erfahrungswissenschaft, H. Cornelius, Primer of Psychology, E. B. Titchener; Outlines of Descriptive Psychology, G. T. Ladd; Versuch einer Darstellung der Empfindungen, W. Przibram, A. E. Taylor, 316; Psychological Side of Hypnotism, Mr. Myers, 350  
 Psychrometer applicable to Study of Plant-transpiration, R. G. Leavitt, 187  
 Purple Patches, F. Southerden, 521  
 Pycraft (W. P.), Morphology of Owls, 46  
 Python, Wild Pigs and, Ernest Hose, 133  
 Rabies: Report of Institut Pasteur of Anti-Rabic Inoculations in 1897, 59; Rabies in Prussia, 300; Egyptian Native Remedies for Rabies, 301  
 Radiants, Minor Meteoric, W. F. Denning, 424  
 Radiation of Incandescent Burners, H. Le Chatelier and O. Boudouard, 240  
 Radiation in a Magnetic Field, Prof. T. Preston, 532  
 Radiation, Solar, J. Evershed, 619  
 Radiography: the Röntgen Rays, Prof. J. Trowbridge, 17; Prof. Röntgen, 17; Röntgen Rays as a Means of Certifying Death, 59; some New Studies in Kathode and Röntgen Radiations, Alan A. Campbell Swinton, 88; Action of Röntgen Rays on Opaque Tubes, Prof. Villari, 132; Infra-Electric Radiations, Prof. P. de Heen, 132; Röntgen Rays and Ordinary Light, C. Godfrey, 142; Causes of Imperfections in Radiographs from Use of Reinforcing Screens, A. Londe, 168; Thorium Rays, G. C. Schmidt, 187; Potential Gradients at Electrodes Discharged by X-Rays, C. D. Child, 187; the Becquerel Rays, O. M. Stewart, 230; Improvement in Tubes, L. Bonetti, 240; Source of Röntgen Rays in Focus Tubes, A. A. C. Swinton, 286; Radiography and the "X" Rays, S. R. Bottone, 292; the Röntgen Rays in Surgery, Prof. Küttner, 302; Comparison of Shadows of Röntgen Rays of Photography, Prof. Villari, 303; a New Radio-Active Substance in Pitchblende, P. and S. Curie, 312; Polarisation of Röntgen Rays, L. Graetz, 335; the Diffraction of X-Rays, Dr. C. H. Wind, 360; Duration of Emission of Röntgen Rays, H. Morize, 635  
 Rails, Automobiles sur, G. Dumont, 495  
 Railway, the Jungfrau Electric, 550  
 Railways, State Purchase of, as a Means of Reducing Freight Charges, 608  
 Rainbow, a High, Prof. Sidney T. Moreland, 151; Prof. F. J. Allen, 175  
 Rainbow, a Monochromatic, A. J. K. Martyn, 224  
 Rainfall: Future Rainfall, 30; Heavy Rainfalls, C. Driberg, 78; Rainfall and Earthquake Periods, Prof. J. P. O'Reilly, 103; Rainfall for United Kingdom, April-June, 1898, 353; Symons's British Rainfall, 1897, G. J. Symons, F.R.S., and H. Sowerby Wallis, 389  
 Raisin (Catherine A.), Structures formed in the Drying of a Fluid with Particles in Suspension, 117; Dendritic Patterns caused by Evaporation, 224  
 Ramsay (Prof. William, F.R.S.), on a New Constituent of Atmospheric Air, 127; Companions of Argon, 182; the Spectrum of Metargon, 245; Helium in the Atmosphere, 545; on the Extraction from Air of the Companions of Argon and on Neon, 556; "Xenon," 556

- Ransome (F. L.), Lava Flows of California, 117  
 Raseri (Signor), the Time of Day of Death and Birth, 523  
 Rat, a Hairless, T. V. Hodgson, 546  
 Rats, New Microbe Pathogenic to, Dr. Issatschenko, 179  
 Rats and the Plague, Dr. F. G. Clemow, 552  
 Rawlinson (Sir Robert), Death of, 131  
 Ray Society, a New Departure by the, 567  
 Rayet (G.), Changes in Large Nebula in Belt of Andromeda, 564  
 Rayleigh (Right Hon. Lord, F.R.S.), the Theory of Sound, 121; Experiments with the Telephone, 429; the Scientific Work of Lord Rayleigh, Prof. Oliver Lodge, 461  
 Rays, Thorium, G. C. Schmidt, 47  
 Reade (T. Mellard), Huge Gypsum Boulder, 132; Post-Glacial Beds exposed in Cutting of New Bruges Canal, 239; High Level Marine Drift at Colwyn Bay, 239  
 Reale Accademia dei Lincei, Royal Prize Awards, 420  
 Re-Blossoming of Horse-chestnut, 521  
 Reclus (Prof.), on his Scheme for a Great Terrestrial Globe, 586  
 Red Spot, Jupiter's, Dr. Lohse, 20  
 Red Spot on Jupiter, the, and its Suspected Identity with Previous Markings, W. F. Denning, 331  
 Rees (John R.), the Minor Planets, 304  
 Refraction, Dispersion and Anomalous Dispersion, Lord Kelvin on the Dynamical Theory of, 546  
 Refractor, the 40-inch Yerkes, Prof. Barnard, 181  
 Refractors of the World, the Large, Prof. G. E. Hale, 160  
 Regnault (F.), Effect of Bicycling on Lungs and Heart, 464  
 Reid (Clement), Geological History of Recent British Flora, 278  
 Reid (Prof. E. Weymouth, F.R.S.), on the Electromotive Changes in the Phrenic Nerve, 483  
 Reid (John S.), a Course in Mechanical Drawing, 8  
 Reliquary and Illustrated Archaeologist, the, 615  
 Remarkable Hailstones, Samuel N. Player, 223  
 Reptiles, Mammals, and Fishes of Essex, the, H. Laver, 242  
 Reptilian Embryos, Hibernating, G. A. Boulenger, F.R.S., 619  
 Reproduction by Photographic Processes, T. Bolas, 204  
 Research, Fellowships for, Prof. A. Gray, 600  
 Respiration in Plants, on the Use of Methylene Blue as a Means of Investigating, Prof. J. B. Farmer, 185, 215
- REVIEWS AND OUR BOOKSHELF:—  
 Explosifs Nitrés, J. Daniel, 4  
 Studies in Psychical Research, Frank Podmore, Dr. W. Leslie Mackenzie, 5  
 Travels in the Coastlands of British East Africa and the Islands of Zanzibar and Pemba, W. W. A. FitzGerald, 6  
 Notes on Observations, Sydney Lupton, 7  
 Prospecting for Minerals: a Practical Handbook for Prospectors, Explorers, Settlers, and all interested in the Opening-up and Development of New Lands, S. H. Cox, 7  
 The Process of Creation Discovered, or the Self-evolution of the Earth and Universe by Natural Causes, James Dunbar, 8  
 Domestic Science Readers, Vincent T. Murché, 8  
 A Course in Mechanical Drawing, John S. Reid, 8  
 Flower Favourites, their Legends, Symbolism, and Significance, Lizzie Deas, 8  
 A Text-Book of Zoology, Prof. T. Jeffery Parker, F.R.S., Prof. William A. Haswell, F.R.S., and Prof. E. Ray Lankester, F.R.S., 25  
 Traité de Zoologie Concrète, Yves Delage and E. Hérouard, Prof. E. Ray Lankester, 25  
 Die Wettervorhersage, Prof. Dr. W. J. van Bebber, 28  
 Maryland Geological Survey, 29  
 Iowa Geological Survey: Report on Lead, Zinc, Artesian Wells, &c., 29  
 Elementary Chemistry, Practical and Theoretical, T. A. Cheetham, 29  
 Ambroise Paré and his Times, 1510-1590, Stephen Paget, 49  
 The Collected Mathematical Papers of Arthur Cayley, F.R.S., 50  
 An Elementary Course of Physics, 51  
 L'Algérie: le Sol et les Habitants, &c., J. A. Battandier et L. Trabut, 51  
 Text-Book of Physiology, E. A. Schäfer, F.R.S., Dr. T. H. Milroy, 73  
 Organographie der Pflanzen, Dr. K. Goebel, 74  
 A Northern Highway of the Tzar, Aubyn Trevor-Battye, 75  
 Vorlesungen über Bacterien, Dr. Alfred Fischer, 76
- Lehrbuch der Entwicklungsgeschichte des Menschen, Dr. J. Kollmann, 77  
 Missouri Botanical Garden, 77  
 System der Bakterien, W. Migula, Prof. A. A. Kanthack, 97  
 Die fundamentalen physikalischen Eigenschaften der Krystalle in Elementarer Darstellung, Dr. Woldemar Voigt, W. H. and G. Chisholm Young, 99  
 The Arrangement of Atoms in Space, J. H. Van 't Hoff, 100  
 The Linacre Reports, 100  
 Anatomia Vegetale, Dr. F. Tognini, 100  
 Fisiologia Vegetale, Dr. L. Montemartini, 100  
 Glass Blowing and Working, Thomas Bolas, 101  
 Experimental Mechanics, G. H. Wyatt, 101  
 The Theory of Sound, J. W. Strutt, Baron Rayleigh, F.R.S., 121  
 Hints on the Management of Hawks, J. E. Harting, 122  
 General Elementary Science, 123  
 Elementary General Science, A. T. Simmons and Lionel M. Jones, 123  
 The Flora of Perthshire, F. Buchanan White, 124  
 Manual Training: Woodwork, George Ricks, 124  
 A Description of Minerals of Commercial Value, D. M. Barringer, 124  
 Ludwig Otto Hesse's Gesammelte Werke, herausgegeben von der Mathematisch-Physikalischen Classe der Königlich Bayerischen Akademie der Wissenschaften, 124  
 Krömsköp Colour Photography, Frederic Ives, 124  
 On Laboratory Arts, Richard Threlfall, C. V. Boys, F.R.S., 145  
 A Student's Text-Book of Zoology, Adam Sedgwick, F.R.S., Prof. Ray Lankester, F.R.S., 147  
 Methods for the Analysis of Ores, Iron and Steel, in Use at the Laboratories of Iron and Steel Works in the Region about Pittsburg, Pa., John Parry, 149  
 Electro-physiology, W. Biedermann, 150  
 Open-air Studies in Botany: Sketches of British Wild-flowers in their Homes, R. Lloyd Praeger, 150  
 The Journal of the Iron and Steel Institute, 150  
 A Simplified Euclid, W. W. Cheriton, 150  
 Theoretical Mechanics: an Introductory Treatise on the Principles of Dynamics, with Applications and numerous Examples, A. E. H. Love, F.R.S., Prof. A. G. Greenhill, F.R.S., 169  
 Birds in London, W. H. Hudson, 172  
 Das optische Drehungsvermögen organischer Substanzen und dessen praktische Anwendung, H. Landolt, 172  
 The Span of Gestation and the Cause of Birth, John Beard, Dr. Arthur Robinson, 173  
 A New Astronomy, Prof. David P. Todd, 173  
 Lessons in Domestic Science, Ethel R. Lush, 173  
 Observations on the Coloration of Insects, Brunner von Wattenwyl, 193  
 The Fauna of British India: Birds, W. T. Blanford, 195  
 Méthode pour abréger les traversées en utilisant les perturbations de l'atmosphère, M. A. Fieron, 197  
 Notes from a Diary, 1873-1881, Right Hon. Sir Mountstuart E. Grant Duff, 198  
 Elements of Descriptive Astronomy, Herbert Howe, 198  
 South American Sketches, Robert Crawford, 198  
 The Making of a Daisy; "Wheat out of Lilies"; and other Studies in Plant-Life and Evolution, Eleanor Hughes-Gibb, 198  
 Essays on Museums and other Subjects connected with Natural History, Sir William Henry Flower, K.C.B., Prof. R. Meldola, F.R.S., 217  
 James Clerk Maxwell and Modern Physics, R. T. Glazebrook, F.R.S., Prof. A. Gray, F.R.S., 219  
 The Atoll of Funafuti, Ellice Group: its Zoology, Botany, Ethnology, and General Structure, based on Collections made by Mr. Charles Hedley, of the Australian Museum, Sydney, N.S.W., 221  
 Weather Lore, Richard Inwards, 222  
 First Stage Magnetism and Electricity, R. H. Jude, 222  
 Problems of Nature. Researches and Discoveries of Gustav Jaeger, 222  
 Medical Missions in their Relation to Oxford, Sir Henry W. Acland, Bart., K.C.B., F.R.S., 222  
 The Origin and Growth of the Moral Instinct, Alexander Sutherland, 241  
 The Mammals, Reptiles, and Fishes of Essex, H. Laver, 242  
 Nippur; or Explorations and Adventures on the Euphrates, J. P. Peters, 243



- A Manual on General Pathology for Students and Practitioners, W. S. Lazarus Barlow, 244
- A Text-book of Entomology, including the Anatomy, Embryology, and Metamorphoses of Insects, for Use in Agricultural and Technical Schools and Colleges, Prof. Alpheus S. Packard, 244
- The Mathematical Theory of the Top, Felix Klein, 244
- William Stokes, his Life and Work (1804-1878), Sir William Stokes, 245
- Practical Organic Chemistry, George George, 245
- Food Supply, Robert Bruce, 245
- Royal Gardens, Kew: Bulletin of Miscellaneous Information, 1897, 245
- The Utilisation of Micro-organisms in the Arts and Manufactures: a Practical Handbook on Fermentation and Fermentative Processes, Dr. Franz Lafar, 265
- Leçons sur l'intégration des équations aux dérivées partielles du second ordre à deux variables indépendantes, E. Goursat, 266
- Our Weights and Measures, H. J. Chaney, 268
- Practicum der Wissenschaftlichen Photographie, Dr. Carl Kaiserling, 268
- Principles of Mechanism, S. W. Robinson, 268
- Introduzione allo Studio dei Silicati, Dr. E. Ricci, 268
- The Blood; how to Examine and Diagnose its Diseases, A. C. Coles, 269
- Notes on Volumetric Analysis, Arthur Thornton and Marchant Pearson, 269
- A First Year's Course of Practical Physics, adapted for Beginners and Junior Students, J. F. Tristram, 269
- The Doctrine of Energy a Theory of Reality, 269
- Submarine Telegraphs, Charles Bright, 289
- Pasture, Percy Frankland and Mrs. Percy Frankland, 290
- Garden-Making, L. H. Bailey, 290
- The Pruning-Book, L. H. Bailey, 290
- The Diseases of the Lungs, James Kingston Fowler and Rickman J. Godlee, 291
- An Elementary Course of Infinitesimal Calculus, Horace Lamb, F.R.S., 292
- Radiography and the "X" Rays, S. R. Bottone, 292
- Ackworth Birds, being a list of Birds in the district of Ackworth, Yorkshire, Major Walter B. Arundel, 292
- Angling Days and an Angler's Books, Jonathan Dale, 292
- The Potentiometer and its Adjuncts, W. Clark Fisher, Prof. A. Gray, F.R.S., 313
- The Principles of Alternate Current Working, Alfred Hay, Prof. A. Gray, F.R.S., 313
- Electric Wiring for the Use of Architects, Underwriters, and the Owners of Buildings, Russell Robb, Prof. A. Gray, 313
- The Angora Goat; and a Paper on the Ostrich, S. C. Cronwright Schreiner, 314
- Creation Records discovered in Egypt, G. St. Clair, 315
- Psychologie als Erfahrungswissenschaft, H. Cornelius, A. E. Taylor, 316
- Primer of Psychology, E. B. Titchener, A. E. Taylor, 316
- Outlines of Descriptive Psychology, G. T. Ladd, A. E. Taylor, 316
- Versuch einer Darstellung der Empfindungen, W. Przibram, A. E. Taylor, 316
- Elementary Practical Zoology, Frank E. Beddard, 318
- Elementary Conics, W. H. Besant, F.R.S., 318
- Examples in Analytical Conics for Beginners, W. M. Baker, 318
- Dobbie's Horticultural Handbooks: Pansies, Violas, and Violets, Charles Jordan, John Ballantyne, Jessie M. Burnie, William Cuthbertson, 318
- The Mechanical Engineer's Handy Office Companion, Robert Edwards, 318
- Outlines of Vertebrate Palaeontology, A. Smith Woodward, 337
- Transactions of the British Institute of Preventive Medicine, 339
- Introduction to Algebra, for the Use of Secondary Schools and Technical Colleges, G. Chrystal, 340
- First Steps in Assyrian, L. W. King, 341
- Essai synthétique sur la formation du Système Solaire; première partie: formation du système, M. Le Général Lafouge, 342
- Photographische Bibliothek. Das Fernobjektiv, Hans Schmidt. Der Gummidruck, J. Gaedicke, 343
- Text-book of Physical Chemistry, Clarence L. Speyers, 344
- Recueil de Données Numériques Optique, H. Dufet, 344
- Oeuvres complètes de Christiaan Huygens publiées par la Société Hollandaise des Sciences, Dr. J. L. E. Dreyer, 361
- Dante's Ten Heavens, Edmond G. Gardner, N. Perini, 362
- A Maori English Lexicon, Rev. W. Colenso, 364
- Aranee hungariae . . . conscriptae a Cornelio Chyzer et Ladislao Kulczynski, R. I. Pocock, 365
- Electrodynamics: the Direct Current Motor, C. A. Carus-Wilson, 366
- A Trip to Venus, John Munro, 366
- A Dictionary of Bird Notes, C. L. Hett, 366
- Chemical Analysis, Qualitative and Quantitative, W. Briggs and R. W. Stewart, 366
- A Treatise on Universal Algebra, with Applications, Alfred North Whitehead, 385
- The First Philosophers of Greece, Arthur Fairbanks, 386
- Bird Neighbours, Neltje Blanchan, 388
- Symons's British Rainfall, 1897, G. J. Symons, F.R.S., H. Sowerby Wallis, 389
- Storia Naturale, per la gioventù Italiana, Achille Griffini, 389
- Iowa Geographical Survey, 389
- Elements of the Comparative Anatomy of Vertebrates, W. N. Parker, 409
- The Play of Animals; a Study of Animal Life and Instinct, Karl Groos, 410
- The Study of Man, Alfred C. Haddon, 410
- A School Geography, George Bird, 411
- The Art of Taxidermy, John Rowley, 433
- Handbuch der Blütenbiologie unter zugrundelegung von Hermann Müller's werk: "Die Befruchtung der Blumen durch Insekten," Dr. Paul Knuth, Francis Darwin, F.R.S., 434
- Annals of the Royal Botanic Garden, Calcutta; the Orchids of the Sikkim Himalaya, Sir George King and Robert Pantling, 465
- Essai sur la Théorie des Machines électriques à Influence, V. Schaffers, 466
- An Introductory Course of Practical Magnetism and Electricity, J. Reginald Ashworth, 466
- Photography Annual, 466
- Botanisches Bilderbuch für Jung und Alt, Franz Bley, 466
- Report on the Natural History Results of the Pamir Boundary Commission, A. W. Alcock, 493
- Outlines of Sociology, Lester F. Ward, A. E. Taylor, 494
- A Text-book of Botany, Dr. E. Strasburger, Dr. Fritz Noll, Dr. H. Schenck, Dr. A. F. W. Schimper, 494
- Automobiles sur Rails, G. Dumont, 495
- Régularisation du Mouvement dans les Machines, L. Lecornu, 495
- A Pocket Dictionary of Hygiene, C. T. Kingzett, D. Homfray, 495
- The Secret of the Poles, Henry Campion, 495
- Wireless Telegraphy, popularly explained, Richard Kerr, 495
- The Metaphysic of Experience, Shadworth H. Hodgson, 517
- Geology for Beginners, W. W. Watts, 518
- Plant Life, considered with special Reference to Form and Function, Charles Reid Barnes, 519
- Stories of Star-Land, Mary Proctor, 519
- Canalisations électriques, R. V. Picou, 519
- Contributions à l'Étude de l'Hérédité et des Principes de la Formation des Races, J. M. Harraca, 519
- Bird Studies, an Account of the Land Birds of Eastern North America, W. E. D. Scott, 541
- A Century of Vaccination, and what it teaches, W. Scott Tebb, 542
- The Heat Efficiency of Steam Boilers: Land, Marine, and Locomotive, Bryan Donkin, 543
- A Text-book of Geodetic Astronomy, John F. Hayford, 543
- Machine Drawing, Thomas Jones and T. Gilbert Jones, 543
- A Student of Nature, R. Menzies Fergusson, 543
- Lehrbuch der Experimental-Physik, Eduard Riecke, Prof. A. Gray, F.R.S., 566
- Tailless Batrachians of Europe, G. A. Boulenger, F.R.S., 567
- Morality independent of Obligation or Sanction, M. Guyau, 567
- Th. Thoroddsen, Geschichte der Isländischen Geographie. Vorstellungen von Island und seines Natur, und Untersuchungen darüber in alter und neuer Zeit, August Gebhardt, 568
- The Telephone: Outlines of the Development of Transmitters and Receivers, Prof. William J. Hopkins, 568

- Mathematical Examination Papers for Use in Navy Classes in Schools, Rev. J. L. Robinson, 568
- Northward over the "Great Ice": a Narrative of Life and Work along the Shores and upon the Interior Ice-cap of Northern Greenland in the Years 1886 and 1891-1897. With a Description of the Little Tribe of Smith Sound Esquimos, the most Northerly Human Beings in the World, and an Account of the Discovery and Bringing Home of the "Saviksue" or Great Cape York Meteorites, Robert E. Peary, Dr. Hugh Robert Mill, 589
- Mykologische Untersuchungen aus den Tropen (Mycological Researches in the Tropics), Dr. Carl Holtermann, G. Massee, 590
- Applied Magnetism: an Introduction to the Design of Electro-Magnetic Apparatus, J. A. Kingdon, 591
- Biomechanik erschlossen aus dem Principe der Organogenese, Dr. E. Mehnert, 591
- Practical Plant Physiology, Dr. W. Detmer, 592
- A Chemical Laboratory Course, A. F. Hogg, 592
- The Scientific Memoirs of Thomas Henry Huxley, W. T. Thistelton-Dyer, F.R.S., 613
- Magnets and Electric Currents, Prof. J. A. Fleming, 614
- Natural Hygiene, Dr. H. Lahmann, 614
- Applied Geology, J. V. Elsdon, 615
- Flora of County Donegal, Henry Chichester Hart, 615
- The Reliquary and Illustrated Archaeologist, 615
- Reynolds (Prof. Emerson), on the Position of Helium, Argon, Krypton, and Neon in his Diagrammatic Representation of the Relations of the Elements, 556; Experiment illustrating the Effect on the Acetylene Flame of Varying Proportions of Carbon-dioxide in the Gas, 557
- Reynolds (Prof. Osborne, F.R.S.), Flow of Water shown by Colour Bands, 467
- Rhodolite, W. E. Hidden, 92
- Rhone Glacier, Water Circulation in, F. A. Forel, 635
- Ricci (Dr. E.), Introduzione allo Studio dei Silicati, 268
- Ricco (A.), Local Variations in Force of Gravity near Mount Etna and in Eastern Sicily generally, 354
- Richards (Prof. T. W.), Redetermination of Atomic Weights of Nickel and Cobalt, 87; Transition Temperature of Sodium Sulphate, 539
- Richet (Prof.), Observations upon the Resistance of Diving Animals to Asphyxia, 485
- Ricks (Geo.), Manual Training: Woodwork, a Handbook for Teachers, 124
- Ridsdale (E. L. J.), Capture of Curious Crustaceans, 597; Deep-Sea Dredging and the Phosphorescence of Living Creatures at Great Sea Depths, 497
- Riecke (Eduard), Lehrbuch der Experimental-Physik, 566
- Riggs (E. S.), Skull of Amphictis, 92
- Righi (Prof. A.), Apparatus for representing the Resultant of two Pendulum Oscillations in the same Straight Line, 488
- Rigid Earth, Latitude Variation in a, Prof. Henry Crew, 232
- Rio de Janeiro, Annual Publication of the Observatory of, for 1898, 553
- River Channels, Sub-Oceanic Terraces and, off the Coast of Spain and Portugal, Dr. Edward Hull, F.R.S., 51
- Rivers, German: the Wupper, Dr. C. Dammann, 109
- Rob (Russell), Electric Wiring for the Use of Architects, Underwriters, and the Owners of Buildings, 313
- Roberts-Austen (Prof. W. C., F.R.S.), Apparatus illustrating Berthelot's Interference Method of Measuring High Temperatures, 62; Treatment of the Surface of Metals, 236; Surface of Metals and Alloys, 619
- Robertson (Dr. W. A.), Effect of Mixed Diet on Salivary Digestion, 311
- Robinson (Dr. Arthur), the Span of Gestation and the Cause of Birth, Dr. John Beard, 173
- Robinson (Rev. J. L.), Mathematical Examination Papers for Use in Navy Classes in Schools, 568
- Robinson (S. W.), Principles of Mechanism: a Treatise on the Modification of Motion by means of the Elementary Combinations of Mechanism, or the Parts of Machines for Use in College Classes by Mechanical Engineers, &c., 268
- Rocques (X.), Volumetric Estimation of Acetaldehyde, 612
- Roger (M.), Artichokes as Culture-Medium for Bacteria, 354
- Roman Mile, Precise Length of, Antonio Blasquez, 109
- Romburgh (Dr. P. van), Cinnamic Methyl Ether in *Alpinia Malaccensis*, 143
- Röntgen (Prof.), Interesting Properties of Röntgen Rays, 17
- Röntgen Radiations, some New Studies in Kathode and, Alan A. Campbell Swinton, 88
- Röntgen Rays: Röntgen Rays and Ordinary Light, Prof. J. J. Thomson, F.R.S., 8; C. Godfrey, 142; Röntgen Rays, Prof. J. Trowbridge, 17; Prof. Röntgen, 17; Röntgen Rays as a Means of Certifying Death, 59; Action on Opaque Tubes of Röntgen Rays, Prof. Villari, 132; Causes of Imperfections in Radiographs from Use of Reinforcing Screens, A. Londe, 168; Potential Gradients at Electrodes discharged by Röntgen Rays, C. D. Child, 187; Source in Focus Tubes of Röntgen Rays, A. A. C. Swinton, 286; Radiography and the X-Rays, S. R. Bottone, 292; Röntgen Rays in Surgery, Prof. Küttner, 302; Comparison by Photography of Shadows of Röntgen Rays, Prof. Villari, 303; Polarisation of Röntgen Rays, L. Graetz, 335; the Diffraction of, Dr. C. H. Wind, 360; Duration of Emission of Röntgen Rays, H. Morize, 635
- Rosa (Prof.), Does the Law of Conservation of Energy hold good for the Vital Processes going on in the Human Body? 532
- Rose-Innes (John), Concerning the Thermodynamic Correction for an Air-Thermometer, 77
- Ross (Surgeon-Major Ronald), the Mosquito the Host of Malaria Parasite, 523
- Rotch (A. L.), Free Air Exploration by Kites, 190
- Roth (H. Ling), Live Frog taken out of a Snake, 367
- Rotifers in Lake Bassenthwaite, Prof. Sydney J. Hickson, F.R.S., 200; W. T. Calman, 271
- Rousselot (C. F.), New Method of Preserving Rotifers, 425
- Rowley (John), the Art of Taxidermy, 433
- Royal Society, 22, 61, 70, 93, 117, 166, 188, 214, 237, 286, 335, 383; Selected Candidates, 32; Royal Society's Conversatione, 61
- Rubens (H.), Absorption and Emission of Steam and Carbonic Acid in Infra-Red Spectrum, 93; Transparency of some Liquids for Rays of Great Wave-Length, 93
- Rubens (Prof. H.), Improvements on Melloni Thermopile, 39
- Rubber Plant at Kew, the Ceara, 40
- Rubber: New Machine for Extraction of Rubber, 58; Gutta-Percha and India-Rubber, 236; Fiji Rubber, 302; Artificial Rubber, 302; Sources of India-Rubber and Gutta-Percha, Dr. D. Morris, 514; the Supply of Amazonian Rubber, W. A. Churchill, 603
- Rubénovitch (E.), Action of Pure Hydrogen Phosphide on Cupric Sulphate, 359
- Rücker (Prof. A. W., Sec. R.S.), Opening Address at the International Conference of Terrestrial Magnetism and Atmospheric Electricity, 473; on the Magnetic and Electrolytic Actions of Electric Railways, 533; the *Mohegan* Wreck and a suggested possible Local Deviation of Ship's Compass, 627
- Rudski (P.), the Mathematical Theory of Earthquakes, 40
- Russell (Hon. Rollo), the Aurora of September 9, 496
- Russell (Dr. W. J.), on the Action exerted by certain Metals and other Organic Substances on a Photographic Plate, 556
- Russia, Leprosy in, MM. Kirchner and Kübler, 158; Glaciers of Russia in 1896, Prof. Mushketoff, 256; Memoirs of Caucasian Branch of Russian Geographical Society, 539
- Ruthven (Captain J. F.), Navigation, 104; Nautical Astronomy, 151
- Rydberg (J. R.), Metargon and the Interplanetary Medium, 319
- Sacerdote (P.), Variation of Dielectric Constants with Temperature, 635
- Sachs (Edwin O.), Science in the Theatre, 162
- St. Clair (G.), Creation Records discovered in Egypt, 315
- St. Lawrence, Character and Progress of the Tides in the Gulf and River, as ascertained by Simultaneous Observations with Self-registering Tide-Gauges, W. Bell Dawson, 260
- St. Louis Academy of Sciences, 72
- Saint-Martin (Dr. de), on the Absorbent Power of the Blood for Oxygen and for Carbonic Acid, 484
- St. Petersburg Society of Naturalists, Memoirs of, 491
- St. Pétersbourg, Bulletin de l'Académie des Sciences de, 492
- Salmon, the Life-History of the, 280
- Salt, the Physiological Use of, Léon Fredericq, 462
- Salvadori (R.), Solfatara Gases, 269
- Salvin (Osbert, F.R.S.), Obituary Notice of, 129
- Sam (T. B. F.), the Auriferous Conglomerates of Gold Coast Colony, 46
- Sanarelli (Dr.), Yellow Fever and Anti-toxic Serum, 158

- Sandbanks, Sea-Beaches and, Vaughan Cornish, 42  
 Sandberger (Dr. K. L. F. von), Death of, 16  
 Sanders (Miss C. B.), on the Struggle for Existence in certain Common Insects, 585  
 Sanitary Institute, Congress of, 522  
 Satellite, the First, of Jupiter, A. E. Douglass, 210  
 Scenery and Literature, Sir Archibald Geikie, 179  
 Schaeberle (Prof.), the Companion to Procyon, 134; Blurring Aberration in the Telescope, 88  
 Schäfer (Prof. E., F.R.S.), on the Alleged Sensory Functions of the Motor Cortex Cerebri, 485  
 Schaffers (V.), Essai sur la Théorie des Machines Electriques à Influence, 466  
 Schaw (Major-General), Australasian Weather Charts and New Zealand Storms, 582  
 Scheiner (Prof.), the Spectrum of Hydrogen in Nebulae, 41  
 Scheiner (S. C. Cronwright), the Angora Goat, and a Paper on the Ostrich, 314  
 Schenck (Dr. H.), a Text-book of Botany, 494  
 Schimper (Dr. A. F. W.), a Text-book of Botany, 494  
 Schlechter (F.), the Temperature of Tree-Stems, 629  
 Schloesing (Th., Fils), Study of Phosphoric Acid Dissolved by the Water of the Soil, 384  
 Schmidt (Dr. G. C.), Thorium Rays, 47; Fluorescence and Actino-Electricity, 117; Electric Properties of Gases, 180  
 Schmidt (Hans), Das Fernobjektiv, 343  
 Schoentjes (Prof. H.), Collapse of Spherical Shell under Pressure, 40  
 Schönrock (Dr. O.), Das Optische Drehungsvermögen Organischer Substanzen und dessen Praktische Anwendung, 172  
 School Geography, a, George Bird, 411  
 Schools, Technical High, Comparison, Sir Philip Magnus, 52  
 Schott (Dr.), on the Magnetic and Electrolytic Actions of Electric Railways, 533  
 Schulhof (M.), Periodic Comets, 526  
 Schuster (Prof. Arthur, F.R.S.), the Origin of the Aurora Spectrum, 151; the Spectrum of Metargon, 199, 269; Potential Matter: a Holiday Dream, 367, 618  
 Schütt (F.), Das Optische Drehungsvermögen Organischer Substanzen und dessen Praktische Anwendung, 172  
 Schuyten (C.), Double Salicylates of Metals and Antipyrin, 583  
 Science: Scientific Worthies, Albert von Kölliker, Prof. W. F. R. Weldon, F.R.S., 1; Domestic Science Readers, Vincent T. Murché, 8; Science Buildings at South Kensington, 54, 155, 176, 294; General Elementary Science, 123; Elementary General Science, A. T. Simmons and Lionel M. Jones, 123; Science in the Theatre, Edwin O. Sachs, 162; Lessons in Domestic Science, Ethel R. Lush, 173; Science and Art Department Examinations, 435, 625; Forthcoming Books of Science, 535; Recent Advances in Science, and their Bearing on Medicine and Surgery, Prof. R. Virchow, For. Member R.S., 554; a Short History of Scientific Instruction, Sir Norman Lockyer, K.C.B., F.R.S., 572, 597; Conference on the International Catalogue of Scientific Literature, 578; Science in Relation to Trade, 609; the Science of Applied Electricity, Magnets and Electric Currents, Prof. J. A. Fleming, 614; Report of International Conference on Scientific Literature, 623  
 Scott (Dr.), Anatomy of Coal-Measure Plants, 633  
 Scott (Dr. F. H.), on some Points in the Micro-Chemistry of Nerve Cells, 486  
 Scott (Kenneth), Vegetable Application used to Inflamm Eye by Malingering Egyptian Soldiers, 255  
 Scott (R. H., F.R.S.), Frequency of Rainy Days in British Islands, 95  
 Scott (W. E. D.), Bird Studies: an Account of the Land Birds of Eastern North America, 541  
 Screw Propeller cavitating Water, Hon. C. A. Parsons, 62  
 Sea: Deep-Sea Dredging and the Phosphorescence of Living Creatures at great Sea Depths, E. L. J. Ridsdale, 497  
 Sea, a White, James W. Barrett, 496, 619  
 Sea, a White or Milky, Dan Pigeon, 520  
 Sea-Beaches and Sandbanks, Vaughan Cornish, 42  
 Sea Fisheries Congress at Dieppe, International, 461, 511  
 Seal, the West Indian, *Monachus tropicalis*, 179  
 Sedgwick (Adam, F.R.S.), a Student's Text-Book of Zoology, 147  
 See (Dr. T. J.), Double and Multiple Southern Stars, 134  
 Seismology: Bollettino della Società Italiana, 22, 359; the Mathematical Theory of Earthquakes, P. Rudski, 40; Mean Surface-Velocity of Pulsations from Calcutta Earthquake of June 12, 1897, Dr. Agamennone, 109; the Indian Earthquake of June 12, 1897, R. D. Oldham, 421; Dr. Cancani's Horizontal Pendulums at Rocca di Papa, 158; Earthquake recorded in Isle of Wight, June 29, 1898, John Milne, 228; Earthquakes of Pacific Coast, 1767-1897, Dr. E. S. Holden, 231; Calabro-Messinese Earthquakes, Prof. G. Mercalli, 329; Attempt to Calculate Velocity of Aidin Earthquake of August 9, 1895, Dr. G. Agamennone, 421; Prof. Milne on Seismological Laboratories, 534  
 Self-Registering Tide-Gauges, Character and Progress of the Tides in the Gulf and River St. Lawrence as ascertained by Simultaneous Observations with, W. Bell Dawson, 260  
 Semmola (Prof.), Volcanic Flames, 303  
 Septic Treatment of Sewage, 229  
 Seraphimoff (M.), the Andromeda Nebula, 605  
 Serotherapy: Influence of Place and Mode of Introduction on Development of Immunising Effects of Anti-diphtheritic Serum, S. Arloing, 23; Report of Institut Pasteur of Anti-Rabic Inoculations, 1897, 59; Dr. Haffkine's Methods and the Plague in Calcutta, 85; Prof. Haffkine's Inoculation System as a Plague Preventive, 354; Inoculation against Plague, 581; Yellow Fever and Anti-Toxic Serum, Dr. Sanarelli, 158; Experiments with Anti-streptococcic Serum, M. Courmont, 278; the Toxicity of Eel Serum, and Further Studies on Immunity, Mrs. Percy Frankland, 369; the Nature of the Antagonism between Toxins and Antitoxins, 323  
 Sewage: the Septic Treatment of Sewage, 229; Bacteriology of London Sewage, 374; the Bacterial Process of Sewage Purification, Rudolph Hering, 628; the Disposal of the Town Refuse of Naples, Prof. P. Boubée, 524  
 Seward (A. C.), the Malayan Fern *Matonia*, 633  
 Seyewetz (M.), Action of Ammonium Persulphate on Silver in Photographic Negatives, 168  
 Sharp (Dr. David), the Classification of Insects, 425  
 Shashih, Chinese Antiquities at, 133  
 Shaw (Saville), the Electrical Resistance and Micro-Structure of Alloys, 356  
 Shaw (W. N.), on Dalton's Law, 532: a Pneumatic Analogue of the Potentiometer, 534  
 Sheep's Horns, Maggots in, W. H. McCorquodale, 546  
 Sherrington (Prof., F.R.S.), on his Discovery of Inhibition of the Tonus of a Skeletal Muscle by the Excitation, either Electrical or Mechanical, of the Antagonist Muscle, 482; Demonstration in the Monkey (*Macacus*) of Inhibition of the Contraction of Voluntary Muscle evoked by Electrical Excitation of certain Points of the Cortex Cerebri, 483  
 Shipworms, Australian, C. Hedley, 240  
 Shrubsole (O. A.), High Level Gravels in Berkshire and Oxfordshire, 190  
 Shufeldt (Dr. R. W.), Anatomy of the Swallows, 199  
 Siam, Five Years in, from 1891 to 1896, H. Warington Smyth, Dr. Hugh Robert Mill, 322  
 Siemens (A.), on the Application of the Electric Motor to the Engineering Workshop, 608  
 Sikkim Himalaya, Orchids of the, Sir George King and Robert Pantling, 465  
 Silicati, Introduzione allo Studio dei, Dr. E. Ricci, 268  
 Silphium among the Ancient Greeks, Dr. Kronfeld, 628  
 Silver Medals, Treatment of the Surface of, Prof. Roberts-Austen, F.R.S., 236  
 Simmons (A. T.), Elementary General Science, 123  
 Simplified Euclid, a, W. W. Cheriton, 150  
 Sinclair (W. F.), Ebbing and Flowing Wells, 52; Crannoges in Estuaries, 521  
 Sioux Outbreak of 1890, the Ghost-Dance Religion and the, James Mooney, 125  
 Skerthchy (S. B. J.), Distribution of Leprosy in Far East, 514  
 Skinner (S.), Affinity-constants of Dihydroxymaleic, Dihydroxy-fumaric, Dihydroxytartaric and Tartronic Acids, 94: on the Carbon-consuming Cell of Jacques, 533  
 Skull, Calaveras, Prof. Whitney's, 17  
 Sleep, and the Theory of its Cause, 8  
 Slime-Flux Disease of Fruit Trees, the, George Massee, 133  
 Smith (C.), Carbohydrates of Barley-straw, 23; Action of Hydrogen Peroxide on Carbohydrates in presence of Iron, 94  
 Smith (G. F. H.), a Possible Dimorphous Form of Laurionite, 311  
 Smith (H. G.), Essential Oil of Eucalyptus Genus, 464  
 Smithsonian Institution, the Story of the, 271



- Smyth (H. Warington), Five Years in Siam, from 1891 to 1896, 322
- Snaefell Lead Mine Accident, the Causes of the, Dr. Le Neve Foster, F.R.S., 178
- Snake, a Living Toad in a, Colonel F. W. Major, 344
- Snake, Live Frog taken out of a, Rose Haig Thomas, 367; H. Ling Roth, 368
- Snake-Destroyer, the Blue-tongued Tasmanian Lizard as a, Stuart Dove, 422
- Snake Venom, Bile of Venomous Serpents most Powerful Antidote against, Prof. F. R. Fraser, 461
- Social Instinct in Birds, B. B. Osmaston, 398
- Sociology, Outlines of, Lester F. Ward, A. E. Taylor, 494
- Solá (Sir J. Comas), Observations of Jupiter during the Opposition 1898, 526
- Solaire, Essai synthétique sur la formation du Système, M. le General Lafouge, 342
- Solar Halo of July 3, Catharine O. Stevens, 224
- Solar Halos, W. Larden, 344
- Solar Radiation, J. Evershed, 619
- Solar Radiometer, Registering, G. S. Isham, 432
- Solar System, on the Stability of the, M. H. Poincaré, 183
- Solfatara Gases, Prof. R. Nasini, F. Anderlini and R. Salvadori, 269
- Solpuga, the Nature and Habits of Pliny's, 320; Prof. A. J. Cook, 247; R. I. Pocock, 294
- Somerville (A.), on the Age and Origin of the Granite of Dartmoor, 558
- Sorbonne, the New Physical Research Laboratory at the, 12
- Soullart (Prof.), Obituary Notice of, M. Callandreaux, 112
- Sound, the Theory of, J. W. Strutt, Baron Rayleigh, F.R.S., 121
- South American Sketches, Robert Crawford, 198
- South Kensington, the Science and Art Buildings at, 54, 155, 176, 294
- Southerden (F.), "Purple Patches," 521
- Southern Stars, Double and Multiple, Dr. T. J. J. See, 134
- Sowton (Miss), on the Action upon Isolated Nerve of Muscarine, Chlorine, and Neurine, 484
- Sowton (Miss S. C.), Report of a Large Series of Galvanometric Records of the Decline of the Current of Injury in Medullated Nerve, and of the Changes in its Response to Periodic Stimulation, 484
- Space, the Arrangement of Atoms in, J. H. Van 't Hoff, 100
- Spain and Portugal, Sub-Oceanic Terraces and River Channels off the Coast of, Dr. Edward Hull, F.R.S., 51
- Span of Gestation, the, and the Cause of Birth, Dr. John Beard, Dr. Arthur Robinson, 173
- Spectrum Analysis: Kirchhoff's Spectroscope, Prof. H. C. Vogel, 19; the Spectrum of Hydrogen in Nebulæ, Prof. Scheiner, 41; Apparatus exhibiting Peculiarities of Interference Fringes formed between Silvered Surfaces, Edwin Edser, 62; Simple Interference Method of Calibrating Spectrometer, Edwin Edser and C. P. Butler, 62; Absorption and Emission of Steam and Carbonic Acid in Infra-red Spectrum, H. Rubens and E. Aschkinass, 93; Transparency of some Liquids for Rays of Great Wave-lengths, H. Rubens and E. Aschkinass, 93; Simple Method of reducing Prismatic Spectra, Edwin Edser and C. P. Butler, 119; on a New Constituent of Atmospheric Air, Prof. W. Ramsay, F.R.S., and Morris W. Travers, 127; Method of determining Order of Fringe of High Order, C. Fabry and A. Perot, 143; the Origin of the Aurora Spectrum, Prof. Arthur Schuster, F.R.S., 151; "Flicker," T. C. Porter, 188; the Spectrum of Metargon, Prof. Arthur Schuster, F.R.S., 199, 269; Prof. W. Ramsay, F.R.S., M. W. Travers and Edward C. Cyril Baly, 245; Metargon, Prof. James Dewar, F.R.S., 319; Metargon and the Interplanetary Medium, J. R. Rydberg, 319; Stars having Peculiar Spectra, Prof. Pickering, Mrs. Fleming, Miss Cannon, 258; New Observations on Zeeman Phenomenon, Henri Becquerel and H. Deslandres, 264; Solfatara Gases, Prof. R. Nasini, F. Anderlini and R. Salvadori, 269; a New Form of Grating Spectroscope, Prof. Michelson, 280; Structure of the H and K Lines, Mr. Jewell, 280; New Action of Light Traversing Metallic Vapours in Magnetic Field, Dr. Macaluso and O. M. Corbino, 635
- Spelterini (Captain), Attempted Balloon Passage of Alps, 549
- Spencer (Herbert), Stereo-Chemistry and Vitalism, 592
- Spencer (Percival), Experiments in Aerial Research, 327
- Spencer (Stanley), Remarkable Balloon Ascent, 513
- Speyers (Clarence L.), Text-book of Physical Chemistry, 344
- Spherical Shell, Collapse under Pressure of, Prof. H. Schoentjes, 40
- Spider and Pitcher-Plant, R. I. Pocock, 274
- Spiders of Hungary, Cornelio Chyzer, Ladislao Kulczynski, R. I. Pocock, 365
- Spines, the Origin and Significance of, C. E. Beecher, 335, 539, 635
- Spivey (W. T. N.), Cannabinol, 238
- Sponges, Food-reception by, Dr. Vosmaer and Prof. Pekelharing, 47
- Sprinkling (C. H. G.), Action of Bromacetal on Sodium Derivative of Ethylic Malanate, 23
- Spray, the Motion of Falling, Arthur Jenkin, 460
- Spring (W.), Influence of Electricity on Sedimentation of Turbulent Liquids, 422
- Spring (Prof. Walther), Colours of Natural Waters, 580
- Squier (Lieut. G. O.), High Speed Telegraph Transmission by Means of Alternators, 211
- Stability of the Solar System, on the, M. H. Poincaré, 183
- Stage Mechanism, Edwin O. Sachs, 162
- Staigmüller (H.), Theoretical Derivation of the Constant of Dulong and Petit's Law, 491
- Stansfield (A.), Method of Demonstrating Allotropic Change in Iron, 62
- Stapf (Dr. Otto), Obituary Notice of Dr. Anton Kerner von Marilaun, 251
- Stark (J.), the Leiden Frost Drop, 335
- Starling (Dr. E.), on an Influence of Blood-supply on Peristaltic Movement, 484
- Stars: Stellar Radiations, Prof. Ayrton, 112; Double and Multiple Southern Stars, Dr. T. J. J. See, 134; Constant of Aberration and Stellar Magnitudes, Prof. Doberck, 258; Stars having Peculiar Spectra, Prof. Pickering, Mrs. Fleming, Miss Cannon, 258; a Catalogue of Fourth-Type Stars, Rev. T. E. Espin, 401; Planet 1898 DQ, Jean Mascart, 432; Motion of Stars in the Line of Sight, M. Deslandres, 490; Observations of Variable Stars, Dr. Francesco Porro, 60; a New Long Period Variable, Herren Müller and Kempf, 60; Variable Stars of Short Period, Prof. E. C. Pickering, 181; the Supposed Variable Y Aquile, 182; the Variable  $\alpha$  Ceti, Herr W. Stratonoff, 330; Dr. Nijland, 330; a New Variable Star, Madame Ceraski, 424; Variable Stars in Clusters, Prof. Bailey, 583; Atlas of Variable Stars, Dr. J. G. Hagen, 606; Stories of Star-Land, Mary Proctor, 519
- Statistics: the Time of Day, of Death, and Birth, Signor Raseri, 523
- Steam Boilers, Heat Efficiency of, Land, Marine, and Locomotive, Bryan Donkin, 543
- Steam Engine, the Oldest Known, 255
- Steel: Methods for the Analysis of Ores, Iron and Steel, in Use at the Laboratories of Iron and Steel Works in the Region about Pittsburgh, Pa., John Parry, 149
- Stellar Magnitudes, Constant of Aberration and, Prof. Doberck, 258
- Stellar Radiations, Prof. Ayrton, 112
- Stereo-Chemistry: the Arrangement of Atoms in Space, J. H. Van 't Hoff, 100; Stereo-Chemistry and Vitalism, Prof. F. R. Japp, F.R.S., 452, 616; Prof. F. J. Allen, 520; Herbert Spencer, 592; Chance or Vitalism, Prof. Karl Pearson, F.R.S., 495
- Steiner's Surfaces, Prof. Brambilla, 627
- Stevens (Catharine O.), Solar Halo of July 3, 224
- Stevenson (C. A.), Distillery Pollution, 319
- Stewart (O. M.), the Becquerel Rays, 230
- Stewart (R. W.), Chemical Analysis, Qualitative and Quantitative, 366
- Stieltjes's Polynomials, Prof. van Vleck, 310
- Stings, the Injection of Cocaine as a Remedy for, 497
- Stings, Wasp and Bee, Sir J. F. D. Donnelly, 435
- Stockholm Meeting of the Iron and Steel Institute, the, 430
- Stokes (Sir George), on the Motion of a Viscous Fluid between Two Parallel Plates, 535
- Stokes (Prof. G. J.), on the Imaginary of Logic, 535
- Stokes (Sir William), William Stokes, his Life and Work, 1804-1878, 245
- Stokes (William), his Life and Work, 1804-1878, Sir W. Stokes, 245
- Stoklasa (Jules), Physiological Function of Iron in Vegetable Organism, 359
- Stomata, Observations on, Francis Darwin, F.R.S., 212

- Stone (John Stone), Transference of Heat in Cooled Metal, 596
- Stoney (Dr. Johnstone), the Dynamical Explanation of certain Observed Phenomena of Meteor Streams, 555
- Storia Naturale, per la gioventù Italiana, Dr. Achille Griffini, 389
- Storm, Magnetic, Dr. Charles Chree, F.R.S., 468
- Strachan (Dr. Henry), Larvæ in Antelope Horns, 468
- Straits of Bab-el-Mandeb, Undercurrents in the, Rear-Admiral Sir W. J. L. Wharton, K.C.B., F.R.S., 544
- Stramberg Corals, the, Maria M. Ogilvie, Dr. J. W. Gregory, 282
- Strane (Paolo), Variation of Thermic Conductivity with Temperature, 329
- Strange (Mr.), on the Results obtained in studying the Cooling Curves of Fatty Acids, 557
- Strangling of an Elephant, the, 115
- Strasburger (Dr. E.), a Text-book of Botany, 494
- Stratonoff (Herr W.), the Variable  $\alpha$  Ceti, 330
- Stromeyer (C. E.), Aurora, 460; Triple Lightning Flash, 570
- Strong (W. M.), Is Continuity of Space necessary to Euclid's Geometry, 310
- Stuart (John), the Scientific Side of Photography, 284
- Student of Nature, a, R. Menzies Fergusson, 543
- Submarine Photography, Prof. Louis Boutan, 18
- Submarine Telegraphs, Charles Bright, 289
- Sub-Oceanic Terraces and River Channels of the Coast of Spain and Portugal, Dr. Edward Hull, F.R.S., 51
- Sugar, Luminosity produced by Striking, J. Burke, 533
- Summer, the Weather of this, Alex. B. MacDowall, 247
- Summer and Winter in relation to the Sun-spot Cycle, 270
- Sun, the Eclipsed and Un-Eclipsed, M. Deslandres, 258
- Sun Worship, Aspects of, among the Moki Indians, 295; Sun Worship by Tusayan Indians, Dr. J. Fewkes, 111
- Sun-spots: Sun-spot Period, W. Ellis, F.R.S., 61; Magnetism and Sun-spots, William Ellis, F.R.S., 78; Sun-spot Periods and Natural Phenomena, M. Camille Flammarion, 134; Summer and Winter in relation to the Sun-spot Cycle, 270; a Large Sun-spot, 463, 553, 630
- Superstitions, Notes on the Bugonia, the Occurrence of *Eristalis tenax* in India, Kumagusu Minakata, 101
- Surf, Iridescent, at Cromer, Constance F. Gordon Cumming, 174
- Surface of Medals, Treatment of the, Prof. Roberts-Austen, F.R.S., 236
- Surfusion in Metals and Alloys, Prof. W. C. Roberts-Austen, F.R.S., 619
- Surgery: Ambroise Paré and his Times, 1510-1590, 49; the Röntgen Rays in Surgery, Prof. Küttner, 302; Death of Dr. J. E. T. Aitchison, F.R.S., 550; Recent Advances in Science and their Bearing on Medicine and Surgery, Prof. R. Virchow, For. Member R.S., 554; Interscapulo-Thoracic Amputation in Malignant Tumours of Humerus, Paul Berger, 588
- Suringar (Prof.), Death of, 299
- Sutherland (Alexander), the Origin and Growth of the Moral Instinct, 241
- Swallows, Anatomy of the, Dr. R. W. Shufeldt, 199
- Sweden: the Swedish Iron Industry, R. Akerman, 430; Swedish Iron Ore Mining, G. Nordenström, 430; the Iron Ore Deposits of Swedish Lapland, H. Lundbohm, 430
- Swedish Arctic Expedition, Return of the, 523
- Swift (Lewis), Catalogue of Nebulae, 515
- Swinton (A. A. C.), Circulation of Residual Gaseous Matter in Crookes' Tubes, 61; Kathode Ray Lamps, 61; some New Studies in Kathode and Röntgen Radiations, 88; Circulation of Residual Gaseous Matter in Crookes' Tubes, 119; Printed Matter and Photographic Plates, 125; the Action of Electric Discharges on Photographic Plates, 151; Source of Röntgen Rays in Focus Tubes, 286; Circulation of Residual Gas in Crookes' Tubes, 627
- Switzerland, Electric Transmission of Water Power in, 328
- Symes (Dr. Charles), Presidential Address to British Pharmaceutical Conference, 398
- Symons's British Rainfall, 1897, G. J. Symons, F.R.S., and H. Sowerby Wallis, 389
- Symons's Monthly Meteorological Magazine, 22, 117, 237, 310, 491, 539
- Synthesis of Albuminous Substances, Dr. Leo Lilienfeld, 351
- Synthesis, Lilienfeld's, Dr. John W. Pickering, 468
- Tactile Impression, the Effect of Movement imparted by, 588
- Tailless Batrachians of Europe, the, G. A. Boulenger, F.R.S., 567
- Tanater (M.), Sodium Perborate, 279
- Taxidermy, the Art of, John Rowley, 433
- Taylor (A. E.), Psychologie als Erfahrungswissenschaft, H. Cornelius, 316; Primer of Psychology, E. B. Titchener, 316; Outlines of Descriptive Psychology, G. T. Ladd, 316; Versuch einer Darstellung der Empfindungen, W. Przibram, 316; Outlines of Sociology, Lester F. Ward, 494
- Taylor (W. W.), Freezing Point of Aqueous Solution of Sodium Mellitate, 335
- Tea Cultivation in India, 423
- Tebb (W. Scott), a Century of Vaccination and what it Teaches, 542
- Tebbutt's Observatory, 88
- Technical High Schools—a Comparison, Sir Philip Magnus, 52
- Technical Mycology, Dr. Franz Lafar, 265
- Telegraphy: Hertzian Receiver for Telegraphy without Wires, E. Ducretet, 47; Wireless Telegraphy and Collisions at Sea, E. Branly, 312; Experiments in Wireless Telegraphy, 398; Wireless Telegraphy, Richard Kerr, 495; Submarine Telegraphs, Charles Bright, 289; Improvements in Magnetic Space-Telegraphy, Prof. O. Lodge, F.R.S., 62; High Speed Telegraph Transmission by Means of Alternators, Prof. A. C. Crehore, Lieut. G. O. Squier, 211; Death of Mr. E. E. Glanville, 421; Telegraphic Instruments actuated at a Distance by Ultra-Violet Light, Prof. Zickler, 524
- Telephony: Automatic Exchange System, 39; Electric Light Wires as Telephonic Circuits, Rev. F. J. Jervis-Smith, F.R.S., 51; Experiments with the Telephone, Right Hon. Lord Rayleigh, F.R.S., 429; Telephonic Communication between Australian Farms, 524; New Magnifying Telephone, Prof. Lodge, 533; the Telephone: Outlines of the Development of Transmitters and Receivers, Prof. William J. Hopkins, 568
- Telescopes: Blurring Aberration in the Telescope, Prof. Schaeberle, 88; J. R. Collins, 88, 280; the Large Refractors of the World, Prof. G. E. Hale, 160; the 40-inch Yerkes Refractor, Prof. Barnard, 181; the Great Telescope for the Paris Exhibition, 424
- Tempel's Comet (1867 II), M. Gautier, 19
- Tempel's Comet? (1886), 515, Herr Pechuele, 490
- Ten Heavens, Dante's, Edmond G. Gardner, N. Perini, 362
- Ten-Pound Island (Massachusetts) Fish Hatchery, Sir D. Colnaghi, 489
- Terrestrial Magnetism and Atmospheric Electricity, International Conference of, Opening Address by Prof. A. W. Rücker, Sec. R.S., President of the Conference, 473
- Tetanus, Thermogenesis in, MM. D'Arsonval and Charrin, 336
- Textiles, Absorption of Liquids by, Leo Vignon, 264
- Textiles, the Attempts to fit China-Grass and Ramie for Manufacturing Purposes, 523
- Theatre, Science in the, Edwin O. Sachs, 162
- Therapeutics, Egyptian Native Remedies for Rabies, 301
- Thermodynamics: concerning the Thermodynamic Correction for an Air Thermometer, John Rose-Innes, 77
- Thermometry: concerning the Thermodynamic Correction for an Air Thermometer, John Rose-Innes, 77; Recent Work in Thermometry, Dr. C. Chree, F.R.S., 304; Transition Temperature of Sodid Sulphate, T. W. Richards, 539
- Thermophones, F. Braun, 335
- Thevenet (Dr. A.), Climate of Algeria, 117
- Thielton-Dyer (W. T., F.R.S.), the First Volume of Huxley's Memoirs, 613
- Thomas (N. W.), Curious Phenomenon, 294
- Thomas (Rose Haig), Live Frog taken out of a Snake, 367
- Thomas (V.), Chlorinating Action of Ferric Chloride in Aromatic Series, 24; some Halogen Salts of Lead, 71
- Thompson (Prof. D'Arcy), the Crab in Mythology, 143
- Thompson (Dr. S. P.), Max Meyer's Theory of Audition, 166; on the Magnetic and Electrolytic Actions of Electric Railways, 533; on an Experiment by Righi on the Production of the Zeeman Phenomenon by Absorption, 533
- Thompson (Prof. Silvanus), on Electric Traction by Surface Contacts, 608
- Thompson (Prof. W. H.), Observations on the Diuretic Effects of Small Quantities of Normal Saline Solution, 484
- Thompson-Yates Laboratories at University College, Liverpool, Opening of the, 575, 606

- Thomson (Prof. J. J., F.R.S.), Röntgen Rays and Ordinary Light, 8
- Thorium Rays, G. C. Schmidt, 47
- Thorndike (Edward L.), Animal Intelligence: an Experimental Study of the Associative Processes in Animals, 249, 390
- Thornton (Arthur), Notes on Volumetric Analysis, 269
- Thoroddsen (Dr. Th.), Geschichte der Isländischen Geographie, Vorstellung von Island und seines Natur und Untersuchungen darüber in Alter und neuer Zeit, 568
- Thorpe (J. F.), Synthesis of Cis- and Trans-Caronic Acids, 23
- Threlfall (Richard), on Laboratory Arts, 145
- Thunderstorms, Distant, affecting Flowers, Rosemary Crawshaw, 390
- Thurston (Edgar), Anthropology in Madras, 82; the Value of a Right-handed "Chank" Shell, 627
- Thwing (Prof. Charles B.), a Simple Method of making Light Mirrors, 571
- Tibet, through Unknown, Captain M. S. Wellby, 347
- Tides in the Gulf and River St. Lawrence, Character and Progress of the, as ascertained by Simultaneous Observations with Self-registering Tide-Gauges, W. Bell Dawson, 260
- Tiger, Lion-, Hybrid, R. I. Pocock, 200
- Tilden (Prof. W. A., F.R.S.), Recent Experiments on certain of the Chemical Elements in relation to Heat, 160
- Timber, the Physics of, S. T. Neely, 130
- Time, International, France and, 60
- Titchener (E. B.), Primer of Psychology, 316
- Toad, a Living, in a Snake, Colonel F. W. Major, 344
- Todd (Prof. David P.), a New Astronomy, 173
- Tognini (Dr. F.), Anatomia Vegetale, 100
- Tokyo, the Variation of Latitude at, H. Kimura, 490
- Toole (Rev. H. O'), Improved Hydrometer, 191, 524
- Tooth of *Hybodus grossicornis* from the Inferior Oolite, a, Thos. Beacall, 390
- Top, the Mathematical Theory of the, Prof. Felix Klein, 244
- Torell (Prof. O. M.), the Work of, 603
- Tortoise, on the Results of Further Investigation of the Respiration of the Heart of the, Prof. Kronecker and Mdllr. Devine, 481
- Tortoises, Galapagos, in Zoological Gardens, 326
- Totemism, Prof. E. B. Tylor, F.R.S., 189
- Toxicity of Eel-Serum, and Further Studies on Immunity, Mrs. Percy Frankland, 369
- Toxicology: the Immunity of Bee-keepers from Bee-poison, Dr. Langer, 18; Reciprocal Action of Animal Toxins, A. Costa, 302; Bile of Venomous Serpents most Powerful Antidote against Snake-Venom, Prof. F. R. Fraser, 461; the Sale of Poisons, Sir J. C. Browne, 577
- Toxins and Antitoxins, the Nature of the Antagonism between, 323
- Trabut (L.), L'Algérie, le Sol et les Habitants, 51
- Trachoma in Prussia, 254
- Trade, Science in Relation to, 609
- Traherne (Captain G. G., R.A.), Horn-Feeding Larvæ, 521
- Transport of Live Fish, the, D. O'Connor, 125
- Travels in the Coastlands of British East Africa and the Islands of Zanzibar and Pemba, W. W. A. FitzGerald, 6
- Travers (Dr. Morris W.), on a New Constituent of Atmospheric Air, 127; Companions of Argon, 182; on the Extraction from Air of the Companions of Argon and on Neon, 556; Xenon, 556; the Spectrum of Metargon, 245; Helium in the Atmosphere, 545
- Tree-Stems, the Temperature of, F. Schlechert, 629
- Trevor-Battye (Aubyn), a Northern Highway of the Tzar, 75
- Trillat (A.), Estimation of Methyl Alcohol in Ethyl Alcohol, 336
- Trimble (Dr. H.), Death of, 513
- Tringali (Dr.), Catania Soil-Temperature Observations, 40
- Trip to Venus, a, John Munroe, 366
- Triplet Lightning Flash, C. E. Stromeyer, 570
- Tristram (J. F.), a First Year's Course of Practical Physics, 269
- Troost (L.), Boiling Point of Liquid Ozone, 216
- Tropics, Mycological Researches in the, Dr. Carl Holtermann, G. Massee, 590
- Trout Acclimatisation in Cape Colony, J. D. F. Gilchrist, 628
- Trouton (Dr. F. T., F.R.S.), Method of Measuring Surface Tension of Liquids, 191
- Trowbridge (Prof. J.), Experiments on Röntgen Rays, 17; Nature of Electrical Discharges in Air and Gases, 604
- Truffaut (G.), Use of Manures in Horticulture, 216
- Tsetse Disease in Mammals, Prof. Kanthack and Mr. Durham, 426
- Tuatara Lizard, the Development of the, Prof. A. Dendy, 609
- Tuberculosis: Formation in Blood Serum, under Chemical Action, of Material coagulating Bacilli of, S. Arloing, 143; the Contagious Character of Tuberculosis, 487; Clinical Value of Agglutination of Koch's Bacillus by Human Serum, S. Arloing and Paul Courmont, 540
- Tubes, Luminosities of Gases in Vacuum, 463
- Tucker (W. Trueman), Photographic Action of Printer's Ink, 32
- Tunncliffe (F. W.), the Opening Addresses at the Medical Schools, 576
- Turner (I. E.), Photography by the Aurora Borealis, 88
- Turner (William), the Life-Work of, Rev. H. A. Macpherson, 398
- Turner (Mr.), the Present Position of the Medical Profession, 577
- Turner (Prof.), Oxford University Observatory, 182; on the Recent Solar Eclipse Expeditions, 533
- Turpain (Albert), Comparison of Hertzian Field in Air and Oil, 167
- Tusayan Indians, Sun Worship by, Dr. J. Walter Fewkes, 111
- Tusayan Katcinas, J. W. Fewkes, 126
- Tusayan Snake Ceremonies, J. W. Fewkes, 127
- Tutt (J. W.), Drinking Habits of Butterflies and Moths, 110
- Tutton (A. E.), a Compensated Interference Dilatometer, 118; a New Dilatometer, 311
- Tylor (Prof. E. B., F.R.S.), Totemism, 189
- Typhoid Fever, Immunity of Arabs against, M. Vincent, 86
- Typhoid Fever, the Sero-Diagnostic Test for, Dr. McWeeney, 47
- Tyrrell (J. B.), Glaciation of North Central Canada, 399
- Tzar, a Northern Highway of the, Aubyn Trevor-Battye, 75
- Umbgrove (Dr.), Action of Sulphuric Acid of 35-40 per cent. on Acid Aliphatic and Neutral Nitramines and their Isomers, 47
- Undercurrents in the Strait of Bab-el-Mandeb, Rear-Admiral Sir W. J. L. Wharton, K.C.B., F.R.S., 544
- United States: Monographs of the United States Geological Survey, 81; the Glacial Lake Agassiz, Warren Upham, 81; the Flora of the Amboy Clays, John Strong Newberry, 81; Geology of the Denver Basin in Colorado, S. F. Emmons, Whitman Cross, and G. H. Eldridge, 82; the Marquette Iron-Bearing District of Michigan, C. R. van Hise and W. S. Bayley, 82; the Destruction of the Birds and Mammals of the United States, William T. Hornaday, 308; the Geography of the United States, Henry Gannett, Dr. Hugh Robert Mill, 497; Report of United States Weather Bureau for 1896-7, 523
- University Intelligence, 22, 45, 69, 92, 116, 141, 165, 186, 214, 237, 263, 285, 309, 334, 358, 382, 408, 431, 463, 491, 515, 538, 563, 587, 610, 634
- Universities: the University of London Commission Bill, 154, 176; the Proposed University for Birmingham, 226; the Duke of Devonshire on University Extension, 260; University Education, Dr. Michael Foster, Sec. R.S., 283
- Unknown Tibet, through, Captain M. S. Wellby, 347
- Upham (Warren), the Glacial Lake Agassiz, 81
- Urumiah, Lake, the Medusa of, Dr. Albert Günther, 319
- Urumiah, Lake, the Jelly-Fish of, R. T. Günther, 435
- Ussher (R. J.), Crannoges in Estuaries, 571
- Vaccination: the Bacterial Character of Calf Lymph, Mrs. Percy Frankland, 44; British Medical Association, Report on Vaccination Bill, 58; the Future of Vaccination, 469; the Vaccination Bill, 320; a Century of Vaccination, and what it teaches, W. Scott Tebb, 542
- Vacuum Tubes, Luminosities of Gases in, 463
- Vailati (Dr. G.), an Obsolete Book of Euclid on Balances and the Lever, 207
- Vaillant (Léon), Eel in Open Sea, 96
- Valdivia, German Deep-Sea Expedition in the Steamship, 346
- Valeur (A.), the Quinoneoximes, 23
- Van Hise (C. R.), the Marquette Iron-Bearing District of Michigan, 82
- Van't Hoff (J. H.), the Arrangement of Atoms in Space, 100
- Variable Stars: Observations of Variable Stars, Dr. Francesco Porro, 60; a New Long Period Variable, Herren Müller and Kempf, 60; Variable Stars of Short Period, Prof. E. C. Pickering, 181; the Supposed Variable Y Aquila, 182; the Variable  $\alpha$  Ceti, Herr W. Stratonoff, 330, Dr. Nijland, 330; a New Variable Star, Madame Cerassi, 424; Variable Stars



- in Clusters, Prof. Bailey, 583; Atlas of Variable Stars, Dr. J. G. Hagen, 606
- Variation, Latitude, in a Rigid Earth, Prof. Henry Crew, 232
- Variation of Latitude at Tokyo, the, H. Kimura, 490
- Variations, Organic, and their Interpretation, J. T. Cunningham, 593; Rev. George Henslow, 594; Prof. W. F. R. Weldon, F.R.S., 595; Walter Garstang, 619
- Vasco da Gama, Sir Clements R. Markham, F.R.S., 67
- Vegetable Anatomy: Anatomia Vegetale, Dr. F. Tognini, 100
- Vegetable Organography, Dr. K. Goebel, 74
- "Velox," a New Photographic Printing Paper, 213
- Venus, a Trip to, John Munroe, 366
- Verneuil (A.), Commercial Extraction of Thorium, 516
- Vernon (H. M.), Relations between Hybrid and Parent Forms of Echinoid Larve, 118; on the Relations between Marine Animal and Vegetable Life in Aquaria, 584
- Vertebrate Paleontology, Outlines of, A. Smith Woodward, 337
- Vertebrates, Elements of the Comparative Anatomy of, Dr. Robert Wiedersheim, W. N. Parker, 409
- Vesuvius, Eruption of, 396, 513
- Vézès (M.), Atomic Weight of Nitrogen, 191
- Vienna, Deaths from Plague at, 625
- Vignon (Leo), Absorption of Liquids by Textiles, 264; the Estimation of Tannin, 432
- Vigouroux (E.), a Silicide of Tungsten, 492
- Villard (P.), a Crookes' Tube revivable by Osmosis, 96; a Property of Fluorescent Screens, 96; the Kathode Rays, 143
- Villari (Prof.), Action of Röntgen Rays on Opaque Tubes, 132; Comparison of Shadows of Röntgen Rays by Photography, 303
- Vincent (M.), Immunity of Arabs against Typhoid Fever, 86
- Virchow (Prof. R., For. Member R.S.), the Second Huxley Lecture, 554; Dinner to, 581
- $\gamma$  Virginis and  $\gamma$  Leonis, Parallaxes and Masses of, Dr. Belopolsky, 400
- Viticulture: the Adherence of Copper Washes against Vine-Parasites, MM. Guillard and Gouirand, 336
- Vitalism, Stereo-Chemistry and, Prof. F. R. Japp, F.R.S., 452; Prof. F. J. Allen, 520; Herbert Spencer, 592
- Vitalism, Chance or, Prof. Karl Pearson, F.R.S., 495; Prof. Geo. Fras. FitzGerald, F.R.S., 545; Clement O. Bartrum, 545; Asymmetry and Vitalism, Prof. G. Errera, 616; Prof. F. R. Japp, F.R.S., 616
- Vitzou (Prof. A.), Recovery of Sight in Monkeys after Total Ablation of the Occipital Lobes, 485
- Vleck (Prof. van), Stieltjes' Polynomials, 310
- Vogel (Prof. H. C.), Kirchhoff's Spectroscope, 19
- Voigt (Dr. Woldemar), Die fundamentalen physikalischen Eigenschaften der Krystalle in Elementarer Darstellung, W. H. and G. Chisholm Young, 99
- Volcanoes: Petroliiferous Sands and Mud Volcanoes in Burma, Dr. Fritz Noelling, 20; Volcanic Flames, Prof. Semmola, 303; Prof. Matteucci, 303; Local Variations in Intensity of Gravity near Mount Etna, A. Ricco, 354; Eruption of Vesuvius, 396, 513
- Volumetric Analysis, Notes on, Arthur Thornton and Marchant Pearson, 269
- Voorst (Mr. van), Death of, 299
- Vosmaer (Dr.), Food-reception by Sponges, 47
- Vry (Dr. J. E. de), Death of, 352
- Wade (E. B. H.), Method of Facilitating Measurement of Temperature by Platinum Thermometry, 142
- Wager (Harold), Structure of Yeast Cell, 633
- Wales, the Astronomical Society of, 42
- Walker (J.), Preparation of Solid Ammonium Cyanate, 23
- Solubility of Isomeric Substances, 238
- Walker (Mr.), on Electric Traction by Surface Contacts, 608
- Wall Mirages, C. T. Whitmell, 619
- Waller (Prof. A. D., F.R.S.), Action of Anæsthetics on Protoplasm, 93; on the Influence of Salts upon the Electromobility of Medullated Nerve, 482; on the Action upon Isolated Nerve of Muscarine, Chlorine and Neurine, 484
- Wallich (Major G. C.), Linnean Society's Annual Gold Medal awarded to, 107
- Wallis (H. Sowerby), Symons' British Rainfall, 1897, 389
- Walpi, the Winter Solstice Ceremony at, 295
- Wanton Mutilation of Animals, the, Dr. George Fleming, 605
- Ward (Lester F.), Outlines of Sociology, 494
- Ward (Prof. Marshall), a New Potato Disease, 633
- Ward (R. de C.), Cumulus Cloud Formation over Fire, 328
- Warning Colours, Mimicry and, Frank Finn, 58, 279
- Warrington (A. W.), on Hydrometers of Total Immersion, 534
- Warrington (Dr.), on the Physiological Structure of the Brain of the Fowl, 485
- Wasp and Bee Stings, Sir J. F. D. Donnelly, 435
- Water Circulation in Rhone Glacier, F. A. Forel, 635
- Water, the Flow of, Prof. H. S. Hele-Shaw, 34, 467, 520
- Water, Flow of, shown by Colour Bands, Prof. Osborne Reynolds, F.R.S., 467; Prof. H. S. Hele-Shaw, 467
- Water-Flow in Uniform Pipes and Channels, G. H. Knibbs, 354
- Water Gas, Opinion of Public Control Committee of London County Council, 276
- Water Power in Switzerland, Electric Transmission of, 328
- Waters, Natural Colours of, Prof. W. Spring, 580
- Waterston (David), an Osteometric Index-Calculator, 597
- Wattenwyl (Brunner von), Observations on the Colorations of Insects, 193
- Watts (W. W.), Geology for Beginners, 518
- Wave-power, the Utilisation of, Experiments at Los Angeles, 207
- Weather, Dogmatism on the Moon and the, 368
- Weather-Lore, Richard Inwards, 222
- Weather Prediction, Prof. Dr. W. J. van Bebbler, 28
- Weather of this Summer, the, Alex. B. MacDowall, 247
- Wedd (C. B.), Corallian Rocks of Upware, 239
- Wehnelt (A.), Light Nodes in Kathode Ray Bundle under Influence of Magnetic Field, 93; the Dark Kathode Space, 491
- Weights and Measures, Our, a Practical Treatise on the Standard Weights and Measures in Use in the British Empire, with some Account of the Metric System, H. J. Chaney, 268
- Weldon (Prof. W. F. R., F.R.S.), Scientific Worthies, Albert von Kölliker, 1; Opening Address in Section D of the British Association, 499; Organic Variations and their Interpretations, 595
- Wellby (Captain M. S.), through Unknown Tibet, 347
- Wells, Ebbing and Flowing, W. F. Sinclair, 52; F. R. Mallet, 104
- West Indies, Economic Botany in the, J. H. Hart, 87
- Wethered (E.), on the Building of the Clifton Rocks, 558; on the Relation and Extension of the Franco-Belgian Coal-field to that of Kent and Somerset, 559
- Wettervorhersage, Die, Prof. Dr. W. J. van Bebbler, 28
- Whale, the Centipede, Kumagusu Minakata, 570
- Wharton (Rear-Admiral, Sir W. J. L., K.C.B., F.R.S.), Undercurrents in the Strait of Bab-el-Mandeb, 544
- Wheeler (W. H.), on the Action of Waves and Tides on the Movement of Material on the Sea-coast, 559
- Whitaker (W.), on the Relation and Extension of the Franco-Belgian Coal-field to that of Kent and Somerset, 558
- White (Dr. Buchanan), the Flora of Perthshire, 124
- White (Sir W. H.), on Engineering Education, 634
- White Sea, a, James W. Barrett, 496, 619
- White or Milky Sea, a, Dan Pidgeon, 520
- Whitehead (Alfred North), a Treatise on Universal Algebra, with Applications, 385
- Whitmell (C. T.), Wall Mirages, 619
- Whitney's (Prof.) Calaveras Skull, 17
- Whittaker (E. T.), Connection of Algebraic with Automorphic Functions, 93; the Recent History of the Theory of the Functions used in Analysis, 535
- Wiedemann (Prof. E.), Light Nodes in Kathode Ray Bundle under Influence of Magnetic Field, 93; Electric Properties of Gases, 180; Wiedemann's Annalen, 93, 117, 187, 335, 491
- Wiedersheim (Dr. Robert), Elements of the Comparative Anatomy of Vertebrates, 409
- Wien (W.), Electric Discharge in Rarefied Gases, 335; Motion of Translation of Luminiferous Ether, 491
- Wilcox (E. M.), Winter Condition of Reserve Food in *Liriodendron* Stems, 335
- Wilks (Sir Samuel, Bart., F.R.S.), the Moon's Course, 496
- Willey (Dr. A.), Development of *Peripatus nova-britannia*, 142; What is Anlage?, 390; on the Phylogeny of the Arthropod Amnion, 584
- Williams (Lloyd), the Reproduction of *Dictyota dichotoma*, 632
- Williams (Percy), a New Carbide of Tungsten, 191; a Double Carbide of Iron and Tungsten, 516; Double Carbides of Iron and Chromium and Iron and Tungsten, 588

- Williamson (Dr. Sidney), Artificial Food, 368  
 Willis (J. C.), Report of Royal Botanic Gardens, Ceylon, 329  
 Willows, Changes in Sex of, Mr. Burkill, 633  
 Wilson (Prof. Carus), Action of Two Electro-Motors Coupled so as to Rotate at Different Speeds, 215  
 Wilson (C. T. R.), Cloud-Production by Ultra-Violet Light, 62  
 Wilson (Edward), Death of, 85  
 Wilson (Ernest), Aluminium as Electrodes, 188  
 Wilson (J.), Action of Light on Acetylene, 238  
 Wind (Dr. C. H.), the Diffraction of X-Rays, 360  
 Wind-Power, the Utilisation of, Prof. la Cour, 300  
 Windt (Mr. de), Death of, 513  
 Windward Islands Hurricane, 512; Meteorological Statistics of, H. Powell, 551  
 Winter, Summer and, in Relation to the Sun-spot Cycle, 270  
 Winternitz (Dr. M.), Folk-Medicine in Ancient India, 233  
 Winton (W. E. de), *Athyrus glirinus*, a New Rodent, 95  
 Wireless Telegraphy, Experiments in, 398  
 Wireless Telegraphy, Richard Kerr, 495  
 Wires, Torsional Oscillations of, Dr. W. Peddie, 239  
 Wolf's Comet, 330, 356, 375  
 Wolmer Forest as a Sanctuary for Birds, 255  
 Wood (J. K.), Preparation of Solid Ammonium Cyanate, 23;  
 Solubility of Isomeric Substances, 238  
 Wood (R. W.), Phase Reversal and Silver Zone Plates, 61;  
 Mirage on City Pavements, 596  
 Wood (T. B.), Cannabinol, 238  
 Wood Incombustible, Process of Making, 328  
 Woodward (A. Smith), Outlines of Vertebrate Paleontology, 337  
 Woodwork, Manual Training: a Handbook for Teachers, Geo. Ricks, 124  
 Wupper, the River, Dr. C. Dammann, 109  
 Wyatt (G. H.), Experimental Mechanics, 101  
 Wyronhoff (M.), Commercial Extraction of Thorium, 516  
  
*Xenidic*, the, J. H. Ashworth, 335  
 Xenon, Prof. Ramsay and Dr. Travers, 556  
  
 Yarn, Peat-Fibre, 178  
 Yeast Cell, Structure of, Prof. Errera, 633; Harold Wager, 633; Enzyme of Yeast Plant, Prof. Reynolds Green, 633  
 Yellow Fever and Anti-Toxin Serum, Dr. Sanarelli, 158  
 Verkes Refractor, the 40-inch, Prof. Barnard, 181  
 Vllimani, Ascent of, Sir W. M. Conway, 513  
 Yorkshire Moor, a, Prof. L. C. Miall, F.R.S., 377, 401  
 Young (Prof. Sydney), on the Thermal Properties of Gases and Liquids, 556  
 Young (W. H. and G. Chisholm), Die Fundamentalene Physikalischen Eigenschaften der Krystalle in Elementarer Darstellung, Dr. Woldemar Voigt, 99  
  
 Zaharia (A.), Solubility of Camphor, 635  
 Zeeman Phenomenon, New Observations on, Henri Becquerel and H. Deslandres, 264  
 Zeeman's Phenomena, Prof. S. P. Thompson, 533  
 Zickler (Prof.), Telegraphic Instruments actuated at a Distance by Ultra-Violet Light, 524  
 Zoology: Additions to Zoological Gardens, 19, 41, 60, 88, 111, 134, 159, 181, 209, 232, 258, 277, 279, 303, 326, 330, 355, 375, 400, 424, 462, 490, 515, 526, 553, 583, 605, 629; Zoological Society, 23, 70, 95, 190, 238; Anniversary Meeting, 17; *Traité de Zoologie Concrète*, Prof. Yves Delages and E. Hérouard, Prof. E. Ray Lankester, F.R.S., 25; a Text-book of Zoology, Prof. T. Jeffery Parker, F.R.S., and Prof. W. A. Haswell, F.R.S., Prof. E. Ray Lankester, F.R.S., 25; Prof. W. N. Parker, 200; Death of Prof. D. S. Kellicott, 39; the Present Position of some Cell Problems, Prof. J. B. Farmer, 63; *Athyrus glirinus*, a New Rodent, W. E. de Winton, 95; the Linacre Reports, 100; Climbing Habits in Frogs, 111; the Strangling of an Elephant, 115; Relations between Hybrid and Parent Forms of Echinoid Larvæ, H. M. Vernon, 118; Development of *Peripatus novæ-britanniæ*, Dr. A. Willey, 142; a Student's Text-Book of Zoology, Adam Sedgwick, F.R.S., Prof. E. Ray Lankester, F.R.S., 147; the West Indian Seal, *Monachus tropicalis*, 179; Lion-Tiger Hybrid, R. I. Pocock, 200; the Atoll of Funafuti, Ellice Group, its Zoology, Botany, Ethnology, and General Structure, based on Collections made by Mr. Charles Hedley of the Australian Museum, Sydney, N.S.W., 221; Zoology as a Higher Study, Prof. William A. Haswell, F.R.S., 247; the Senegal Giraffe at the Zoological Gardens, 277; Death of the Senegal Giraffe, 373; the Destruction of the Birds and Mammals of the United States, William T. Hornaday, 308; the Angora Goat, and a Paper on the Ostrich, S. C. Cronwright Schreiner, 314; Elementary Practical Zoology, Frank E. Beddard, 318; Galapagos Tortoises in Zoological Gardens, 326; the International Congress of Zoologists, 376, 424; International Congress of Zoology, 390; Address by the President, Sir John Lubbock, 391; the Life Work of William Turner, Rev. H. A. Macpherson, 398; the Marine Fauna in Lake Tanganyika, and the Advisability of Further Exploration in the Great African Lakes, J. E. S. Moore, 404; the Building of Atolls, Stanley Gardiner, 425; New Method of Preserving Rotifers, C. F. Rousselet, 425; Classification of Insects, Dr. David Sharp, 425; Colour Evolution of Lepidoptera, M. Bordage, 425; Relation of Colour of Lepidoptera Chrysalids to Colour of Environment, M. Bordage, 425; Position of Sponges in Animal Kingdom, Prof. Yves Delages, 425; E. A. Minchin, 426; Saville Kent, 426; the Tsetse Disease in Mammals, Prof. Kanthack and Mr. Durham, 426; Traces of Six Primitive Segments in Insects' Heads, Ch. Janet, 426; Origin of Mammals, Prof. Seeley, 426; Prof. Osborn, 426; Prof. Marsh, 427; A. Sedgwick, 427; Prof. Hubrecht, 427; the Descent of Man, Prof. Haeckel, 427; the Brain of *Pithecanthropus erectus*, E. Dubois, 427; Origin of Echinoderms, Prof. MacBride, 427; Origin of Red Blood Corpuscles in Placenta of *Tarsius*, Prof. Hubrecht, 428; *Pholoxax fraasii*, Prof. Osborn, 428; the Medusa of Lake Urumiah, Dr. Albert Günther, 319; the "Jelly-Fish" of Lake Urumiah, R. T. Günther, 435; a Request for Zoological Literature, Prof. Blaxland Benham, 520; the Tailless Batrachians of Europe, G. A. Boulenger, F.R.S., 567; Organic Variations and their Interpretations, J. T. Cunningham, 593; Rev. George Henslow, 594; Prof. W. F. R. Weldon, F.R.S., 595; Walter Garstang, 619; Air and Water as Factors in Food of Frogs, H. Pellat, 612; the Echinoderm Fauna of New Zealand, H. Farquhar, 636

